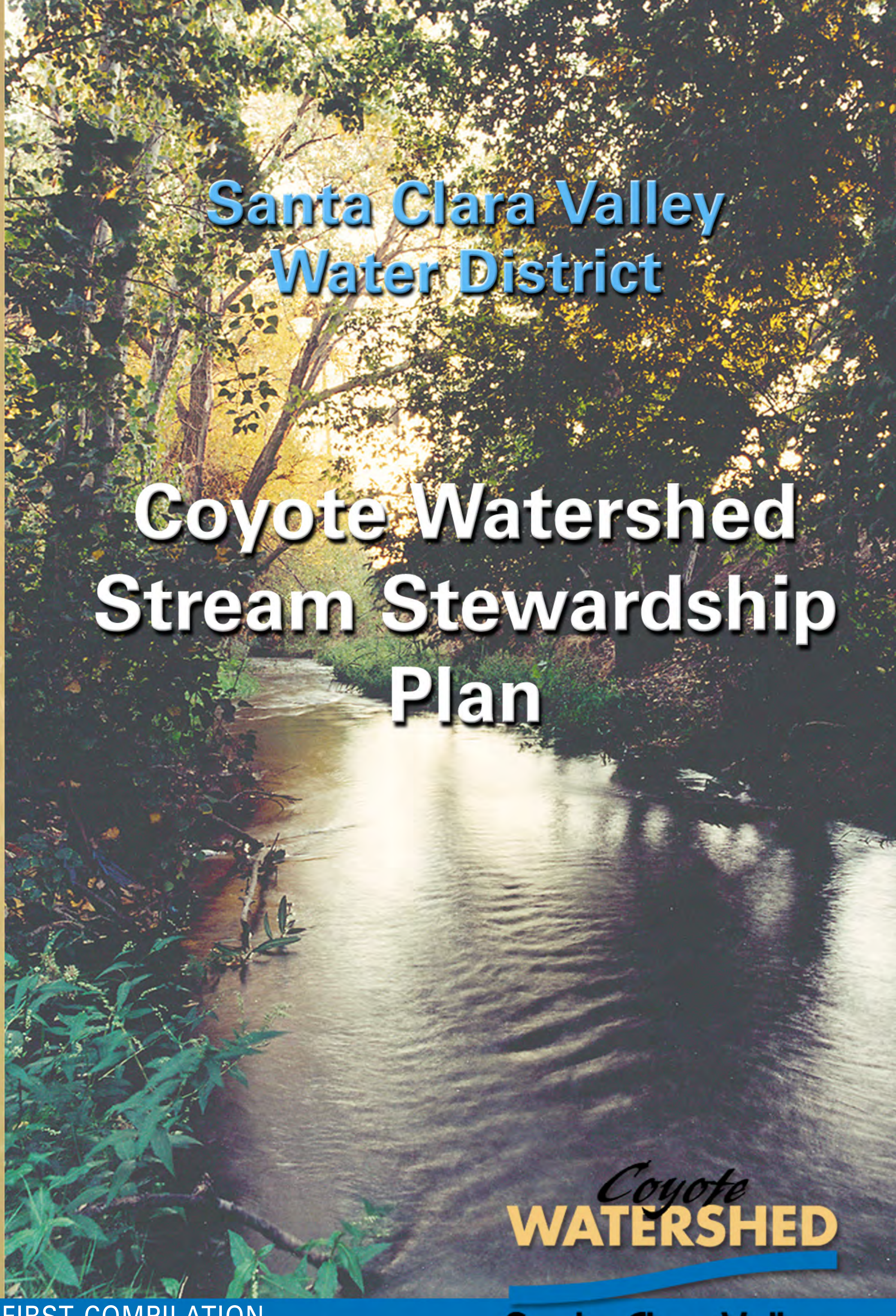
EXECUTIVE SUMMARY



Santa Clara Valley Water District

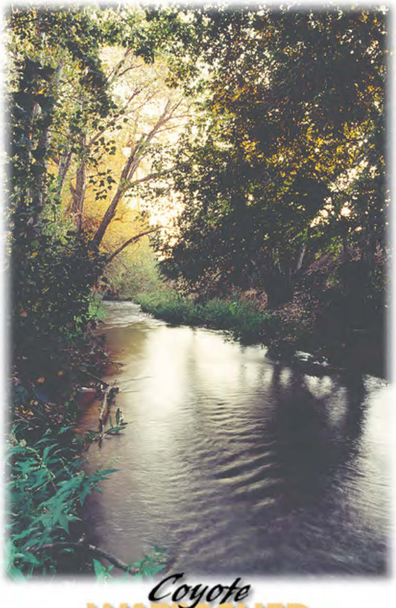
Coyote Watershed Stream Stewardship Plan

Coyote WATERSHED

FIRST COMPILATION

Santa Clara Valley Water District

February 2002



Coyote
WATERSHED

Santa Clara Valley
Water District

Special acknowledgement is made to the following people for their diligent efforts in completing the Coyote Watershed Stream Stewardship Plan.

District's Project Team

Beau Goldie, Sarah Young, Deborah Amshoff and Neddal Ali-Adeeb for Stream Stewardship Plan
George Fowler for the Coyote Watershed Capital Project Contract Manager
Marc Klemencic for the Coyote Watershed Manager

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Coyote Watershed Workgroup

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Coyote Watershed Stream Stewardship Plan
EXECUTIVE SUMMARY

Stream Stewardship Plan Summary

The Santa Clara Valley Water District's Board of Directors established the Ends Policy to further the District's mission for comprehensive water/flood management programs to better serve the community. The Ends Policy, in part, envisions a watershed in which:

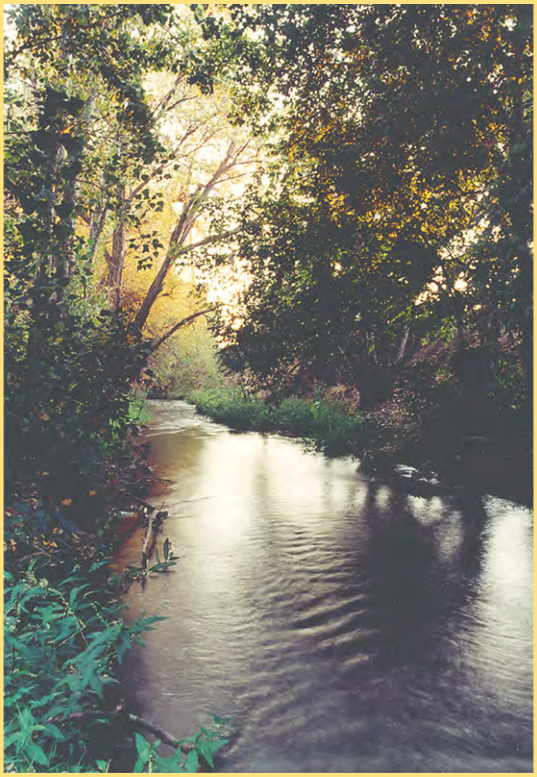
1. **There is a healthy and safe environment for residents and visitors.**
   1.1 There is a reliable supply of healthy, clean drinking water.
   1.2 There is a reduced potential for flood damages.
2. **There is an enhanced quality of life in Santa Clara County.**
   2.1 Watersheds, streams, and the natural resources therein are protected and when appropriate enhanced or restored.
   2.2 There are additional open spaces, trails, and parks along creeks and in the watersheds when reasonable and appropriate.

The Santa Clara Valley Water District (District) developed the Stream Stewardship Plan (SSP or Plan) to provide a strategic approach for implementing the Ends Policy using a watershed management approach to provide stream stewardship within the Coyote Watershed.

> "The vision of the Coyote Watershed Stream Stewardship Program is a watershed in which the water resources are managed to provide living streams; a healthy, safe, and enhanced quality of life for people and wildlife; and improvement of the habitats they occupy."

The Coyote Watershed is the largest watershed in the Santa Clara Basin and consists of all of the land that drains into the Coyote Creek or its 29 major tributaries. The Coyote Watershed is home to over 1,000,000 people and also provides aquatic and riparian habitat for plants and animals, including a number of threatened or endangered species. Flooding events have frequently occurred within the Watershed. As a result, many of

Figure ES-1
Upper Penitencia Creek



the creek channels along the valley floor have been modified for flood protection with the addition of earthen levees or concrete and rock lined channels, which provide limited habitat. One of the goals of the watershed management approach is to promote multi-objective projects that provide flood protection and protect natural resources to improve the quality of life within Santa Clara County.

Development of the Stream Stewardship Plan:

The Plan was developed in a collaborative manner between District Staff and local stakeholders through the creation of a short-term work group within the Santa Clara Basin Watershed Management Initiative (WMI) as shown on Figure ES-2.

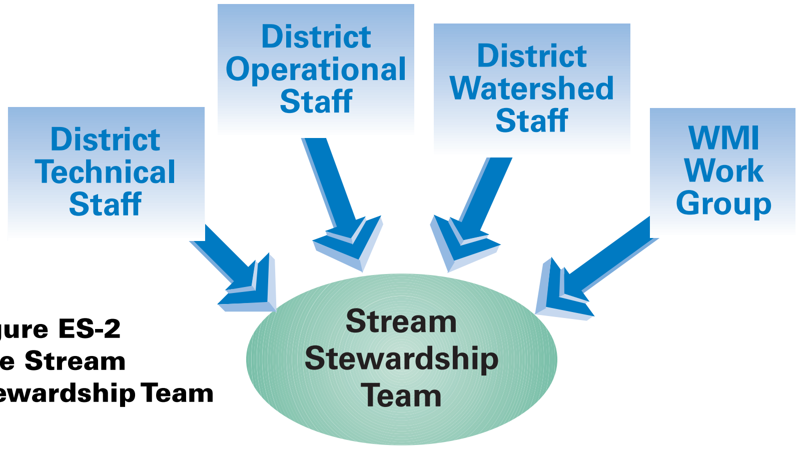


Figure ES-2
The Stream Stewardship Team

The work group provided a method for obtaining input and support from WMI stakeholders, avenues for preliminary coordination with other agencies, and assisted in identification of candidate projects, guidelines and the vision for the Watershed. Workgroup members contributed to the SSP through three different levels of participation: through being on the e-mail distribution list, attending workgroup meetings, and providing written comments. In addition, the WMI Core Group has been provided with updates on this Plan through monthly meetings and mailings.

The work group assisted District Staff in identifying important issues to be addressed in the plan, drafting the outline of the plan, and participating in visioning exercises to develop goals and objectives and brainstorm potential data gaps or candidate projects. Many District staff from the Coyote Watershed Program, Office of Countywide Watershed Management, and the Water

Supply Division also contributed to SSP work.

The Plan compiled existing regulatory, physical, environmental, and institutional conditions in the Coyote Watershed and summarized projects done by other agencies affecting the watershed. Development of the Plan's vision, goals, objectives, and candidate projects are based in part on the condition of the Watershed as represented by the available data. However, the compilation of data indicated that additional data is needed regarding the environmental condition of the Watershed. As a result, many of the identified candidate projects are studies to obtain more information and data. One of the recommendations for the future is to conduct a watershed study to more fully evaluate the environment/habitat condition of the Watershed and to update the Plan to incorporate the new data.

The District Ends Policy formed the basis of a visioning process that established a vision, goals and objectives for the Coyote Watershed. Candidate programs and projects were developed for those cases in which the existing conditions did not meet the Watershed goals and objectives. The Plan team developed criteria to rank how closely each program or project supported the Watershed goals. The result was a list of candidate programs and projects ranked from several perspectives, including meeting flood protection goals, environment/ habitat restoration goals, and community participation/recreation goals.

The team developed criteria to rank how closely each program or project supported the watershed goals.

Implementation of the Plan will move the District towards accomplishing the District's mission and implementing the Ends Policy. Implementation of individual projects within the District includes consideration of a number of factors. These factors could include availability of funding, requirements of existing mandates or regulations, and immediate-need projects such as those in response to emergencies, requests from partner agencies, or urgent Board issues. The Plan's list of candidate projects and programs and their resultant ranking is now another tool that can be used by District management to help select projects for funding and implementation. The highest-ranking projects from the Plan are those that best fulfill the goal of implementing the Ends Policy within the Coyote Watershed. These projects are summarized in Table ES-1 at the end of the Executive Summary.

The plan provides a logical framework for linking to other regional planning efforts

The project ranking process in this Plan includes only the candidate projects identified as part of the Coyote Watershed Stream Stewardship Plan. As a watershed management approach is adopted in other watersheds, additional linkages will be needed to integrate the prioritization and implementation of projects resulting from various Capital Improvement Programs, including other stream stewardship plans, the District's Integrated Water Resources Plan (IWRP), and the Fisheries Aquatic Habitat Collaborative Effort (FAHCE) programs. A comprehensive ranking of all projects within the District should be considered as a tool to help select projects for funding at the District level.

There are a number of on-going regional efforts in parallel to the Plan. The results of those regional efforts are important to the management of Coyote Watershed in the long run. The Plan is intended to provide a logical framework for establishing the linkage to these efforts rather than to short cut or to duplicate them. It is also important to recognize the Plan is not the end of the District's efforts for stewardship efforts; it is rather a coherent framework for coordinated efforts within the Coyote Watershed.

The Stream Stewardship Plan is a dynamic document that will be modified as conditions change within the Watershed. Implementation of the Plan will move the District towards accomplishing the District's mission and implementation of the Ends Policy. This Plan includes a discussion of how the watershed management strategies can be implemented including performance measures to track the effectiveness of the Plan, drivers for project selection and implementation, roles and responsibilities of various District divisions and units, potential partnerships with non-District agencies, and how the Plan will be updated.

The Plan includes the following chapters:

Tables ES-2
Stream Stewardship Plan Contents

Chapter 1	Introduction
Chapters 2 - 7	Compilation of Existing Watershed Data
Chapter 8	Vision, Goals, and Objectives
Chapters 9 - 11	Candidate Projects, Programs, Guidelines, and Activities
Chapter 12	Project Ranking Process
Chapter 13	Funding
Chapter 14	Implementation

ES. 1 What is the Coyote Watershed?

The Coyote Watershed, shown on Figure ES-3, consists of all of the land that drains into the Coyote Creek or its 29 major tributaries. Encompassing an area of over 320 square miles, it is the largest watershed in the Santa Clara Basin and is wholly contained within Santa Clara County. The watershed extends northward from Morgan Hill to the Alameda County border, and comprises the city of Milpitas, eastern San Jose, the northern tip of Morgan Hill and unincorporated lands of Santa Clara County.

The south and east sides of the Watershed are bounded by the Diablo Range while Coyote Creek largely forms the western side. The Watershed is home to over 1,000,000 people and also provides habitat for several endangered or threatened species including the California

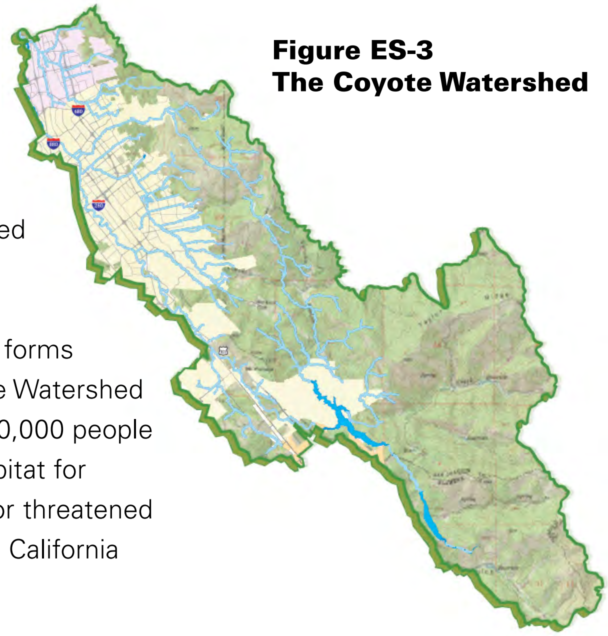
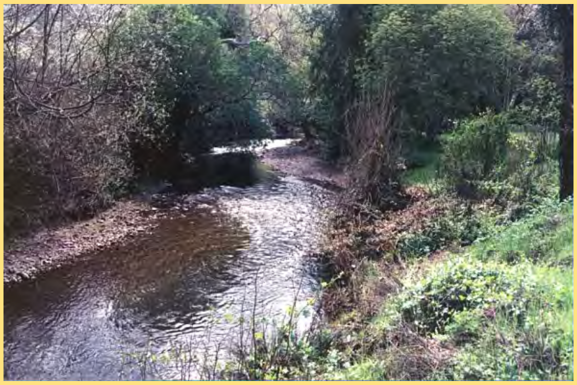


Figure ES-3
The Coyote Watershed

red-legged frog, bank swallow, steelhead, Chinook salmon, Santa Clara Valley Dudleya, and 12 other species of plants and animals.

Figure ES-4. Unmodified channels provide the best habitat.



The Coyote Watershed stretches over a large and varied topography. The eastern and southern portions are upland areas with elevations ranging up to 4,000 feet. The upland areas are sparsely populated. Some of the creeks in the uplands areas are still in their natural condition. Unmodified channels with abundant trees and a wide corridor provide the best riparian habitat, water quality, and flood protection. Areas of channels with no trees contain herbaceous vegetation, which provide habitat for amphibians, reptiles, rodents, and birds. Areas with trees provide more cover and habitat for native fish and other aquatic species. The creeks that have not been impacted by flood improvement projects or channel modifications include: Boyds, San Felipe, Cow, Carlin Canyon, Packwood, Hoover, Spinter Valley, Spring, Shingle, and Las Animas.

The northern and western portions comprise the heavily developed valley floor area and include the Cities of San Jose and Milpitas. The valley floor's increasing density of development, transportation corridors, and encroachment into the flood plain has had a profound impact on the stream corridors of the watershed. Development limits the natural meandering of a stream, which impacts riparian, aquatic, and wildlife habitats. Pavement and buildings associated with development also make the ground's surface less pervious and increases the rate of runoff during storm events. This increases the volume of storm water runoff that a creek is expected to carry in a given time and also increases the amount of sediment and debris carried by the runoff. The sediment and debris settles in the stream channels and further comprises the stream's hydraulic capacity.

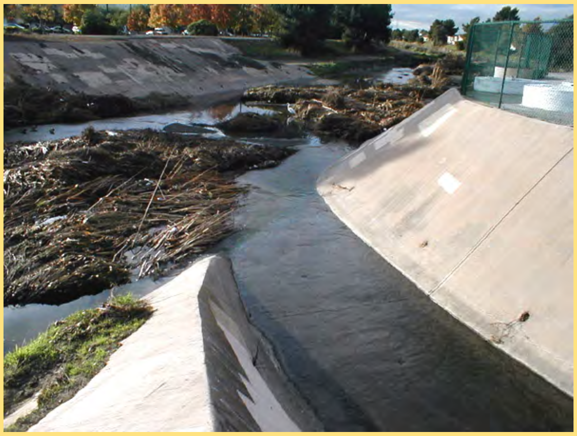
Flooding events have frequently occurred within the watershed.

Recent flooding events include large portions of San Jose and Milpitas in l997, and at the Berryessa/Calera Creek confluence in 1998. Twenty percent of the Coyote Watershed is located within the Federal Emergency Management Agency (FEMA) 1% floodplain and homeowners must purchase flood insurance as a condition of home loans. All cities and towns in Santa Clara County participate in the National Flood Insurance Program, which provides federally-backed flood insurance to communities that enact and enforce floodplain regulations. In addition, the local agencies of Santa Clara County also participate in the Community Rating System program, which rewards communities that participate in flood management and education over and beyond the minimum requirements.

In response to the flooding events, approximately 407,000 feet, or 77 miles of creek channels along the valley floor have been modified for flood protection with the addition of earthen levees, trapezoidal concrete channels, floodwalls, culverts or concrete and rock lined channels. Design and operation of the modified channels were historically focused on conveying 100-year storm flows and accommodating new development adjacent to the stream corridors. The modifications provide limited opportunities for multi-objective purposes such as creation of riparian habitat, aquatic habitat or recreation for flood protection.

More recent projects have incorporated a wider range of goals such as aquatic and riparian habitat restoration and public access in addition to the 100-year flood protection goal. The Plan provides the framework to design future projects that would implement multiple components of the District's Ends Policy, which would help to integrate multi-objectives into District projects.

Figure ES-5. Flood control projects have modified 77 miles of natural stream channels.



ES.2 Who Has Jurisdiction Over the Coyote Watershed?

A plethora of governmental and regulatory agencies manage and regulate many aspects of the Coyote Watershed. The five general levels of governmental authority working in the Watershed include:

- Municipalities;
- Santa Clara County;
- Special District Regional Agencies including the Santa Clara Valley Water District;
- State Agencies; and
- Federal Agencies

The Santa Clara Valley Water District plays an important role in the Coyote Watershed. The District is the comprehensive water management agency for Santa Clara County providing wholesale water supply, flood protection, and watershed stewardship. The implementation of District projects and programs are subject to the regulations and requirements established by the applicable state and federal regulatory agencies, which are listed in Table ES-3.

In addition to the governmental agencies, many stakeholder groups are also involved in Watershed activities. Stakeholder groups are cross-sections of the community and provide valuable input to the development and execution of District activities. There are numerous stakeholder groups active in the Coyote Watershed including the partial list shown in Table ES-4.

Many of the stakeholder groups also participate in the Santa Clara Basin Watershed Management Initiative (WMI). The Santa Clara Basin Watershed Management Initiative (WMI) is a collaborative, stakeholder driven effort among representatives from regional and local public agencies (e.g. United States Environmental Protection Agency, San Francisco Bay Regional Water Quality Control Board, California Department of Fish and Game), civic, environmental, resource conservation and agricultural groups (e.g. CLEAN South Bay, Santa Clara County Streams for Tomorrow, Greenbelt Alliance); professional and trade organizations (e.g. Silicon Valley Manufacturing Group, Silicon Valley Chamber of Commerce); business and industrial sectors (e.g. , California Restaurant

Association, Home Builders Association of Northern California); and the general public. The WMI's mission is to protect and enhance the Watershed, creating a sustainable future for the community and the environment. The WMI created a special working group that has provided the primary stakeholder input for development of the Stream Stewardship Plan.

The Plan provides a method to relate the stream stewardship concept to other programs. It implements portions of the WMI process by identifying candidate projects and activities. It identifies potential funding avenues for projects. When the WMI Watershed Action Plan is prepared, the results will be incorporated into Plan updates. The Plan also complements WMI efforts by identifying what the District will do to benefit the Watershed.

Table ES-3
Governmental Agencies Working Within the Coyote Watershed

TOPIC	LEAD AGENCIES
Flood Management and Control	• Federal Emergency Management Agency • California Department of Water Resources • US Army Corps of Engineers • Santa Clara Valley Water District
Water Quality	• US EPA • State Water Resources Control Board • San Francisco Regional Water Quality Control Board
Drinking Water Quality	• California EPA • Department of Health Services • Santa Clara Valley Water District
Water Rights	• California Department of Water Resources • State Water Resources Control Board • US Bureau of Reclamation
Wetlands and Riparian Zones	• Regional Water Quality Control Board • Bay Conservation and Development Commission • US Army Corps of Engineers
Endangered Species and Fisheries	• US Fish and Wildlife Service • California Department of Fish and Game • National Marine Fisheries Service
Land Use	• San Jose, Milpitas, Morgan Hill • Santa Clara County • California State Lands Commission • Bay Conservation and Development Commission
Transportation	• Valley Transportation Authority • Metropolitan Transit Commission
Vector Control	• Santa Clara County
Pesticides	• Department of Pesticide Regulation

Table ES-4
Partial List of Stakeholder Groups Active in the Coyote Watershed

CLEAN South Bay	Santa Clara Valley Audubon Society
Home Builders Association of Northern California	Sierra Club
League of Women Voters	Silicon Valley Manufacturing Group
San Jose Silicon Valley Chamber of Commerce	Silicon Valley Pollution Prevention Center
Santa Clara County Streams for Tomorrow	Silicon Valley Toxics Coalition

ES.3 What are the Plan's Goals and Objectives?

The Ends Policy is the foundation for establishing the Plan's vision, goals and objectives. In collaboration with the Coyote Watershed Workgroup, a Vision Statement was developed by the District to incorporate the intent of the Ends Policy without limiting the potential outcomes associated with time, resources or jurisdictions. The vision developed for the Coyote Watershed Plan is: a watershed in which the water resources are managed to provide a healthy, safe, and enhanced quality of life for people and wildlife; and improvement of the habitats they occupy.

Five main areas of concern were identified to achieve the Vision. One goal was identified for each area of concern, with the exception of Flood Protection/Channel Maintenance, for which two goals were identified. Each goal listed in Table ES-5 helps to fulfill a component of the Vision, and is generally linked to a second level Ends Policy.

Multiples objectives were identified for each goal to create more specific principles for implementing the Ends Policy and identifying candidate projects, guidelines and activities. A total of 36 objectives were identified and are listed in Chapter 8. The objectives became the foundation for identifying candidate watershed projects, guidelines and activities necessary to achieve the goals and vision of the Coyote Watershed. Figure ES-6 summarizes the overall process and products for the Stream Stewardship Plan.

Table ES-5
Goals of the Stream Stewardship Plan

WATER SUPPLY	Provide adequate supply of sufficient quality water for human and wildlife purposes
FLOOD PROTECTION/CHANNEL MAINTENANCE	Protect humans, wildlife, and property from damaging floods Increase ecological health and appearance of our natural and modified channels
ENVIRONMENT/HABITAT	Protect, enhance, and restore habitat for wildlife
COMMUNITY PARTICIPATION/RECREATION	Encourage community participation in Coyote Watershed Stewardship activities
PLAN IMPLEMENTATION	Implement the Plan in an efficient and effective manner

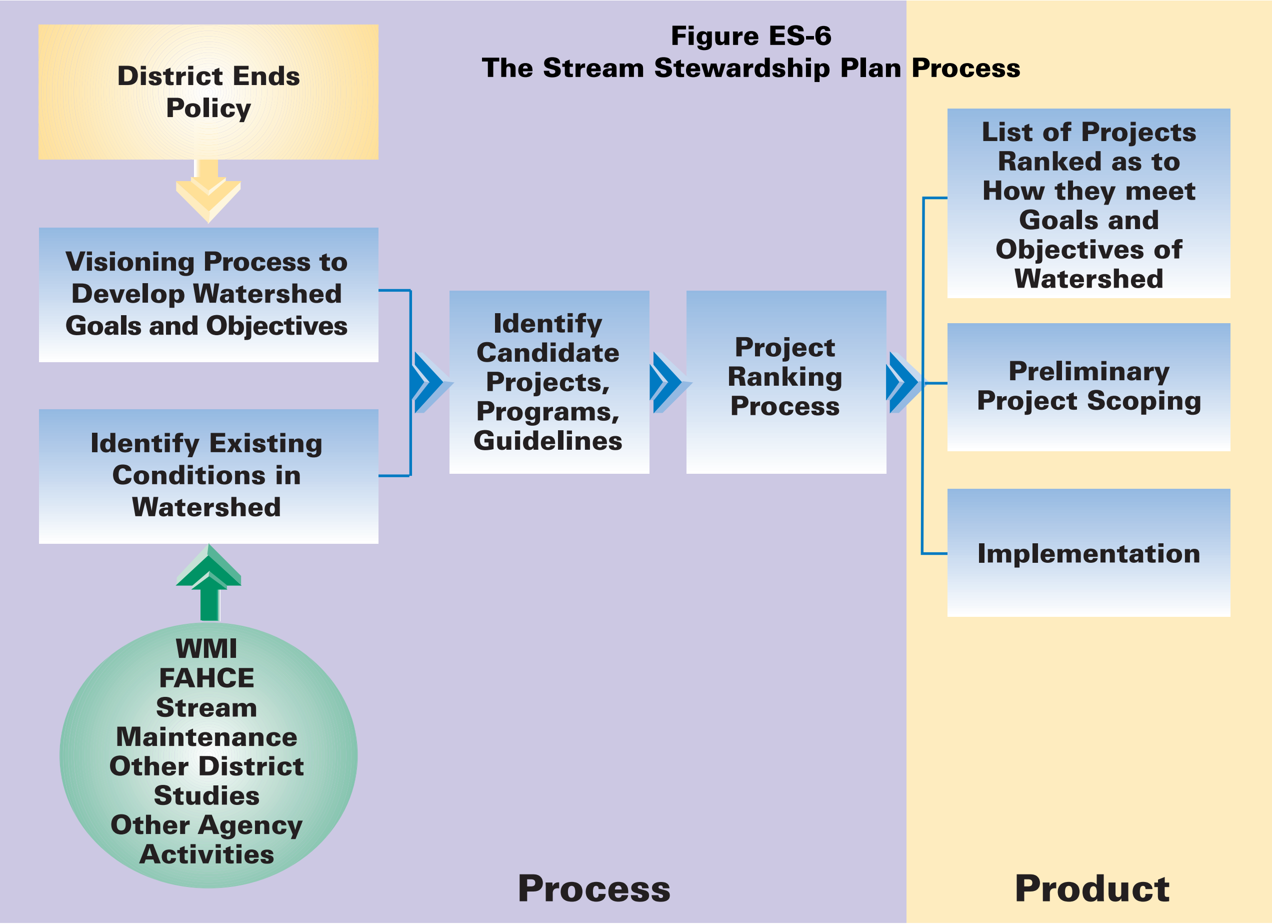


Figure ES-6
The Stream Stewardship Plan Process

District Ends Policy
Visioning Process to Develop Watershed Goals and Objectives
Identify Existing Conditions in Watershed
WMI
FAHCE
Stream Maintenance
Other District Studies
Other Agency Activities
Identify Candidate Projects, Programs, Guidelines
Project Ranking Process
List of Projects Ranked as to How they meet Goals and Objectives of Watershed
Preliminary Project Scoping
Implementation
Process
Product

ES.4 What are the Candidate Projects?

Candidate programs, projects, activities, and guidelines were developed through a series of brainstorming sessions with District technical Staff and the WMI work group. Candidate programs or projects were identified for each objective to help achieve each goal. **Programs** are broad series of planning or implementation tasks that could be long-term or a continuing, ongoing endeavor. **Projects** refer to specific tasks that have a definite start and end date and associated budget such as a specific construction project or document preparation. **Guidelines** refer to a set of developed policies that help direct the District towards achieving the Plan goals and objectives. **Activities** are the operations and maintenance tasks within or beyond the Coyote Watershed that the District or others would pursue in support of the vision, goals, and objectives.

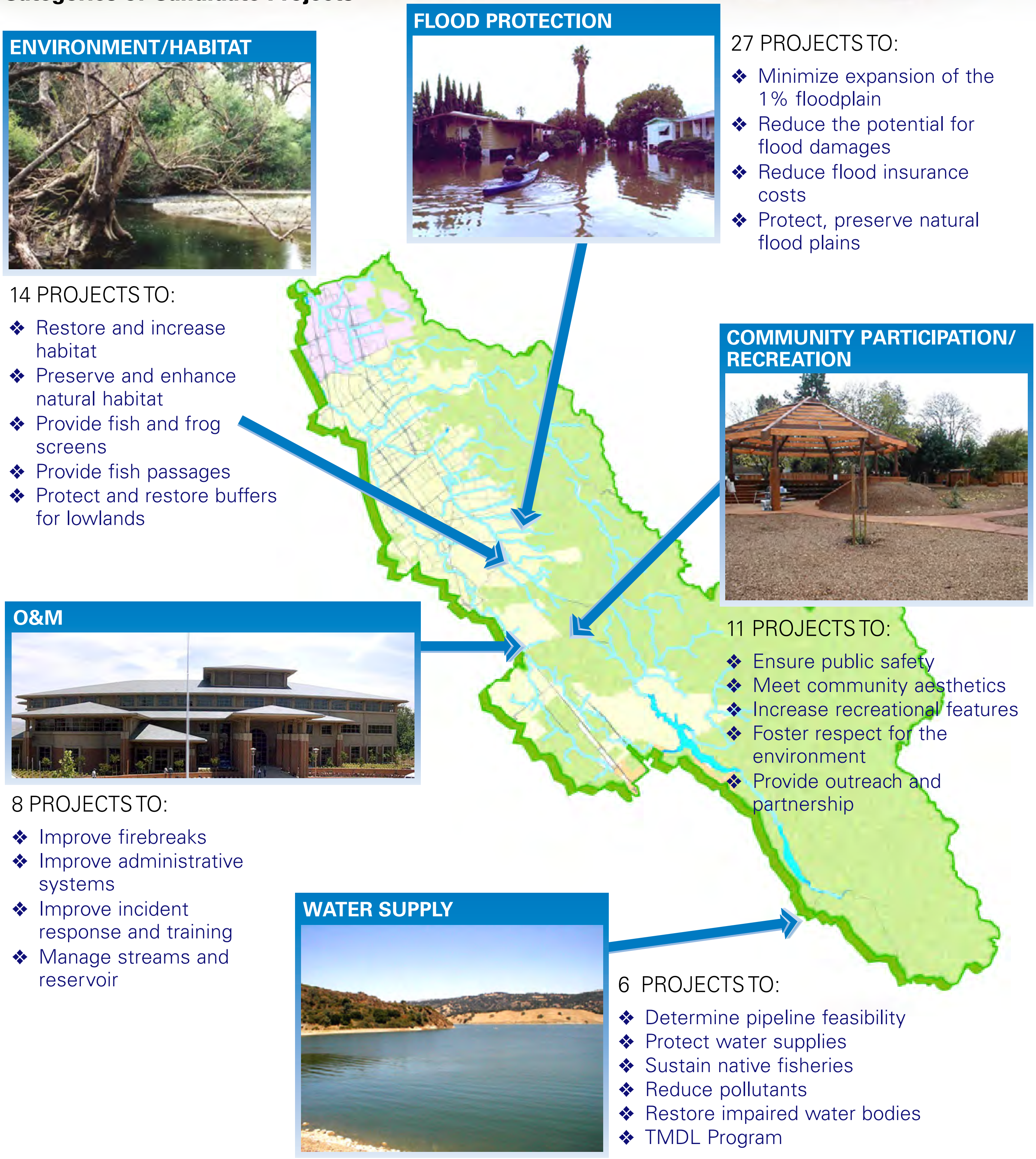
Candidate programs, projects,and activities were identified to meet each objective.

Initially, 87 candidate programs/projects/activities were identified. Upon further consideration, the Plan team determined that under the water supply goal, only those projects related to watershed activities were pertinent to the Stream Stewardship Plan. The Plan team recognized that the water supply projects pertaining strictly to supply of safe and reliable drinking water would continue to be considered under the District's IWRP. Therefore, the Plan established the linkage to the IWRP and removed the drinking water related projects from consideration within the Plan to avoid duplication. The team also recognized that candidate projects under the Plan Implementation goal were processes for carrying out the other projects identified in the Plan. They were therefore removed from consideration as stand-alone candidate projects.

The end result was 66 candidate projects/programs grouped under five categories as shown on Figure ES-7. The figure also describes in general terms, the types of projects contained within each category. Four of the categories correspond to four of the five areas of concern identified in the goal-setting process. Projects within the Plan Implementation goal were not included as candidate projects as mentioned above. The fifth category, O&M, is a compilation of candidate stream stewardship operations and maintenance activities developed by District Staff in Chapter 11.

The candidate projects and programs are described in detail in Appendix C. Table ES-1, which is located at the end of the Executive Summary, summarizes key data for each project.

Figure ES-7
Categories of Candidate Projects



ENVIRONMENT/HABITAT

14 PROJECTS TO:

- ❖ Restore and increase habitat
- ❖ Preserve and enhance natural habitat
- ❖ Provide fish and frog screens
- ❖ Provide fish passages
- ❖ Protect and restore buffers for lowlands

FLOOD PROTECTION

27 PROJECTS TO:

- ❖ Minimize expansion of the 1% floodplain
- ❖ Reduce the potential for flood damages
- ❖ Reduce flood insurance costs
- ❖ Protect, preserve natural flood plains

COMMUNITY PARTICIPATION/ RECREATION

11 PROJECTS TO:

- ❖ Ensure public safety
- ❖ Meet community aesthetics
- ❖ Increase recreational features
- ❖ Foster respect for the environment
- ❖ Provide outreach and partnership

O&M

8 PROJECTS TO:

- ❖ Improve firebreaks
- ❖ Improve administrative systems
- ❖ Improve incident response and training
- ❖ Manage streams and reservoir

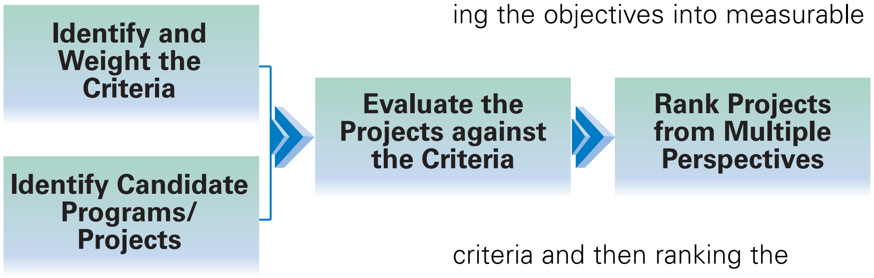
WATER SUPPLY

6 PROJECTS TO:

- ❖ Determine pipeline feasibility
- ❖ Protect water supplies
- ❖ Sustain native fisheries
- ❖ Reduce pollutants
- ❖ Restore impaired water bodies
- ❖ TMDL Program

ES.5 How Were the Projects Ranked?

Figure ES-8
Project Ranking Process


Identify and Weight the Criteria
Identify Candidate Programs/ Projects
Evaluate the Projects against the Criteria
Rank Projects from Multiple Perspectives

The candidate projects and programs were ranked by translating the objectives into measurable criteria and then ranking the projects against the criteria. Providing stewardship of District maintained streams requires evaluation from a watershed approach, i.e. determining how flood protection, habitat enhancement, recreation, and community participation can be integrated in a project. The ranking process reflects this viewpoint and incorporates multi-perspective criteria to evaluate and rank the projects on how they best fulfill the goals and objectives of the Plan and the Board's Ends Policy.

The criteria were divided into three main categories consistent with the Plan goals; flood protection, environment/habitat, and community participation/ recreation as shown on Table ES-6. Water supply was not one of the main categories since supply of safe and reliable drinking water is addressed in the IWRP. Within each category, specific criteria were developed to measure how well each project fulfilled the Plan's goals and objectives. For the flood protection category, the criteria were similar to those currently used in the District's Waterways Management Model. For the other categories, the criteria were developed through a series of workshops with the Plan team and the WMI work group.

Table ES-6
Criteria Used in the Project Ranking Process

FLOOD PROTECTION/ CHANNEL MANAGEMENT	• Reduce potential flood damages • Protect areas of development • Rehabilitate existing facilities • Manage sediment • Encourage multipurpose uses
ENVIRONMENT/HABITAT	• Protect and preserve ecological health • Sustain native fisheries • Reduce pollutants • Improve wildlife habitats • Protect buffer areas • Protect wetlands
COMMUNITY PARTICIPATION/RECREATION	• Ensure public safety • Increase recreational features • Promote outreach and education

The projects were then ranked from various perspectives, giving differing emphasis to each of the main categories. The first three perspectives emphasized, respectively, flood protection, environment/habitat, and community participation/ recreation. The top rated projects differed with each perspective.

When flood protection criteria were emphasized, the top ranked projects were more traditional flood protection projects that reduced the potential for flood damages. The District is already implementing the top five projects in this perspective.

For the environment/habitat perspective, projects ranking high were those that emphasized protection and preservation of the environment and habitat. The top-rated projects increased open space, improved the management of the stream channels for habitat enhancement, and provided regional planning efforts to study and improve habitat.

For the community participation/ recreation perspective, the top projects included a mix of projects that met the multi-objective criteria of ensuring public safety, increasing recreational features, and promoting general public outreach and involvement. The top projects in this perspective included increased open space and property acquisitions or non-core district activities such as trash collection in the stream channels.

The fourth perspective was a balanced perspective giving an equal weight to each of the three main categories. The top-ranked projects from this perspective were those that achieved multiple goals. These included projects that increased open spaces and trails, flood protection projects outside of the stream channel, and improved stream and reservoir management methods. The top three projects in this perspective were the same as for the community participation/recreation perspective. Table ES-7 shows the top three projects from each perspective.

During implementation, the list of ranked projects can be used to select the highest-ranking projects

During implementation, the list of ranked projects can be used to help select the highest-ranking projects from a specific category to match available funding.

Table ES-7. Top Projects from Each Perspective

Project Rankings	Rank in SSP Perspective			
	FP	EH	CPR	Balanced
FP1-B-04 : L. Silver Cr Flood Protection Project	1	52	18	17
FP1-B-07 : Berryessa/Calera Cr Flood Protection Project	2	53	19	18
FP1-B-05 : L. Silver Cr/Thompson Cr Flood Protection Project	3	58	42	34
FP1-E-01 : Open Space Acquisition	23	1	14	5
CPR-C-02 : Open Spaces, Trails & Parks MP	21	2	1	1
FP1-B-02 : Storm Water Detention and Infiltration	6	3	32	4
CPR-C-02 : Open Spaces, Trails & Parks MP	21	2	1	1
FP1-B-03 : Property Buy-out	11	30	2	2
FP2-E-01 : Trash Collection in Stream Channels	22	13	3	3

from a specific category to match available funding. For example, if funding were available specifically for flood protection projects, the ranking of projects from that perspective would show which projects best meet the flood protection goals and objectives of the Watershed. Alternatively, the list of ranked projects can be used as a method to garner support and obtain external funding for implementation of highly ranked projects for which funding is not currently available within the District.

ES.6 How Are Projects Funded?

Work in the Coyote Watershed is funded from three District funds; the Coyote Watershed Fund, Stream Stewardship Fund, and Clean Safe Creeks Fund. The Clean Safe Creeks Fund was added during fiscal year 2001-02 and is funded by revenue from a special tax approved by Santa Clara County voters in November 2000. Each of the three funds receives both annual income and one-time receipts as shown in Table ES-8.

The percentage of funding from each of the three funds will vary over time. Table ES-9 shows the estimated funding from each fund for fiscal years 2002 and 2016.

Table ES-8
Coyote Watershed Funding Sources

FUNDS	ANNUAL INCOME	ONE-TIME FUNDING SOURCES
Watershed Fund	Ad valorem property tax Benefit assessments Investment income	Certificates of Participation State subventions Federal funding Local cost sharing
Watershed and Stream Stewardship Fund	Ad valorem property tax Investment income	State funding Federal funding Local cost sharing
Clean Safe Creeks Fund	Measure B special tax Investment income	State funding Federal funding Local cost sharing

Reliability and constraints on one-time funding sources are considerations for project funding. Federal and state funding can include opportunity grants that are tied to implementation of specific programs or projects. The proceeds from the Certificates of Participation are reliable funding. Federal participation dollars and state monies are considered less reliable sources. This is because state and federal funding amounts are voted upon each year by the state congress in Sacramento and federal congress in Washington D.C., then are subject to veto by the governor or president, respectively. However, the District is committed to work with Federal and state agencies as well as other partner entities for funding for watershed projects.

Table ES-9
Percentage of Funding From Each Fund

Fiscal Year	Coyote Watershed Fund	Stream Stewardship Fund	Clean Safe Creeks Fund
2002	23%	6%	71%
2016	7%	73%	20%

ES.7 How Are Projects Implemented?

Selecting a project for implementation or deciding when to implement a project requires careful consideration. For each of the candidate projects the District could serve as the lead, a partner or a supporter in the implementation. In serving as a partner or a supporter, the District would need to coordinate with other agencies in deciding which project gets implemented first. Shared priority and availability of funding would be the main considerations.

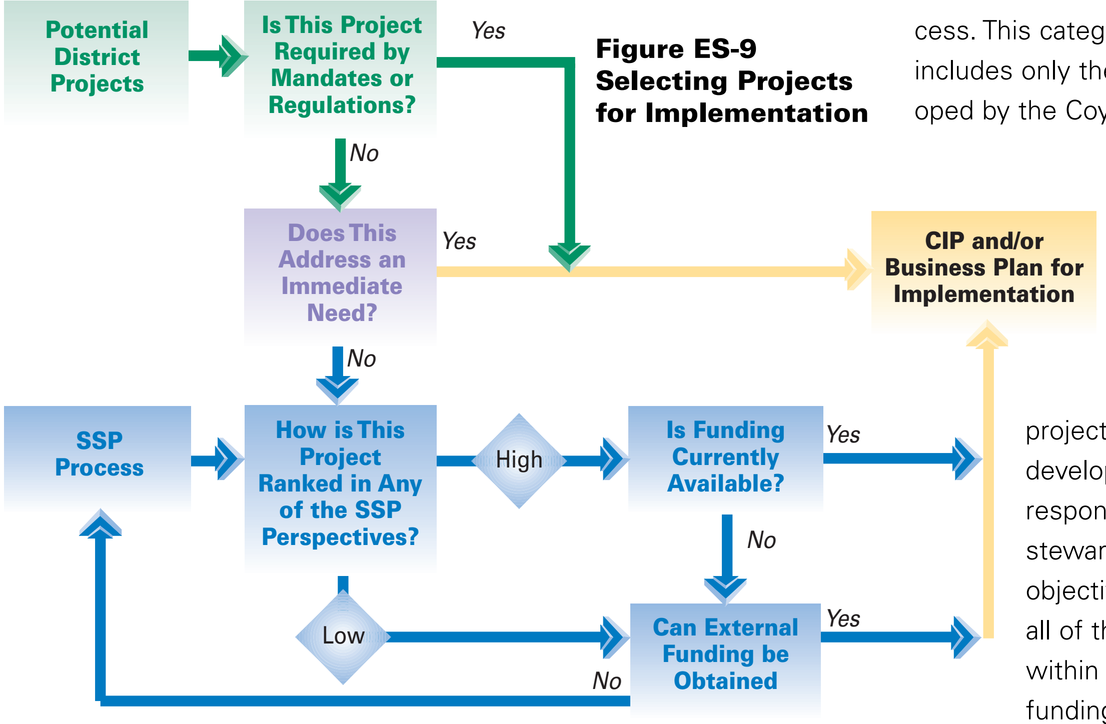

Potential District Projects
Is This Project Required by Mandates or Regulations?
Yes
No
Does This Address an Immediate Need?
Yes
No
CIP and/or Business Plan for Implementation
SSP Process
How is This Project Ranked in Any of the SSP Perspectives?
High
Is Funding Currently Available?
Yes
No
Low
Can External Funding be Obtained
Yes
No

Figure ES-9 Selecting Projects for Implementation

For District-led projects, implementation of projects still requires consideration of a number of factors as shown in Figure ES-9. There are several types of projects competing for available funding. Some projects are required to meet existing mandates or regulations. A second type of project is one that meets an immediate need such as response to emergencies, requests from partner agencies, or urgent Board issues. Another category of projects is the candidate projects developed and ranked during the Plan process. This category currently includes only the projects developed by the Coyote Watershed Plan. As stream stewardship plans are developed for other watersheds, the list of candidate projects that have been developed and ranked in response to stream stewardship goals and objectives may expand to all of the watersheds within the District. If funding were not available for the Plan candidate projects, they would be returned to the Plan process for re-consideration during the next Plan update.

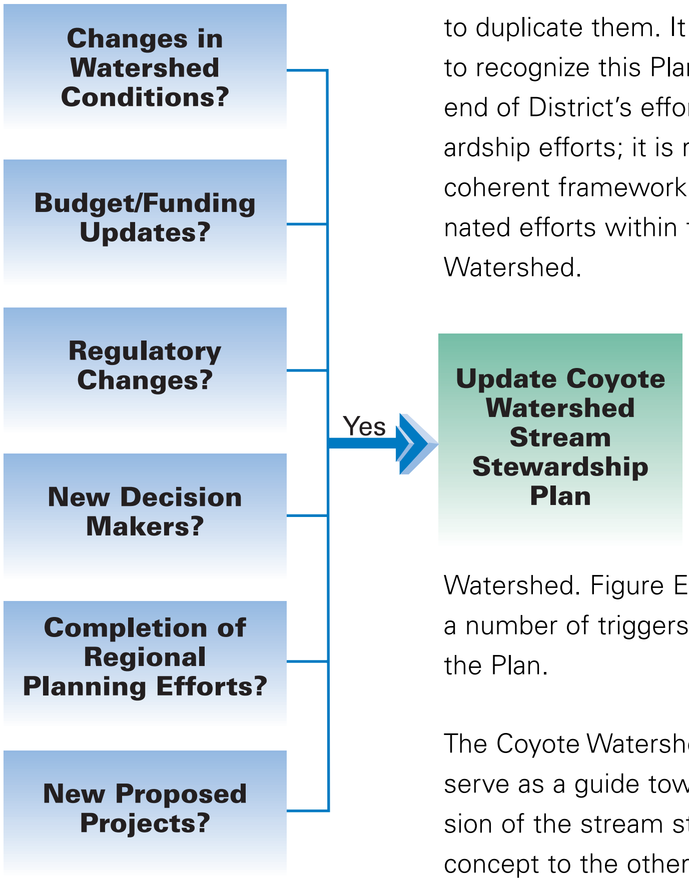
Project implementation starts with a project workplan. The Candidate Project Detail Sheets included in Appendix C serve as a preliminary scoping document for preparation of the workplans for the programs and projects identified in the Plan. After projects are selected for implementation, it is anticipated they will be implemented using the sound project management procedures and programs already in place within the District. The Plan is intended to link with the District's existing organization infrastructure, partnership opportunities, and public outreach efforts as discussed in Chapter 14. The Plan provides the initial identification and selection of candidate projects for implementation through the following unique Plan features:

- Compilation and update of Watershed conditions
- Identification of multi-objective candidate projects to meet specific watershed needs in a manner that reflects the District Ends Policy
- Ranking process to compare how candidate projects fulfill the identified goals and objectives of the Watershed

ES.8 How Will the Stream Stewardship Plan be Updated?

This Plan is intended to be a reference and guidance document for the District to facilitate efficient long-term realization of the Board's Ends policy in the Coyote Watershed. It is meant to be a dynamic document that is adaptive and able to address changes in Watershed conditions, and assist the Watershed Manager in identifying candidate projects meeting the goals and objectives of the Watershed.

Figure ES-10
Triggers for Updating the Plan


Changes in Watershed Conditions?
Budget/Funding Updates?
Regulatory Changes?
New Decision Makers?
Completion of Regional Planning Efforts?
New Proposed Projects?
Yes
Update Coyote Watershed Stream Stewardship Plan

The Plan is intended to provide a logical framework for establishing the linkage to other regional efforts, rather than to short cut or to duplicate them. It is important to recognize this Plan is not the end of District's efforts for stewardship efforts; it is rather a coherent framework for coordinated efforts within the Coyote Watershed.

The Plan will be updated as conditions change within the Watershed. Figure ES-10 identifies a number of triggers for updating the Plan.

The Coyote Watershed Plan may serve as a guide towards expansion of the stream stewardship concept to the other watersheds within the Santa Clara Basin. Stream stewardship across the basin will help fulfill the vision of the District's Ends Policy and result in watersheds that not only provide a healthy and safe environment for residents and visitors, but also enhance the quality of life in Santa Clara County.

> *…watersheds that not only provide a healthy and safe environment for residents and visitors, but also enhance the quality of life in Santa Clara County.*

Table ES-1. Summary of Candidate Projects and Ranking Results

PROJECT		Rank in SSP Perspective				STATUS	DISTRICT ROLE	LOCATION
		FP	EH	CRP	BALANCED			
WS-A-05:	Coyote Canal Pipeline Feasibility Study	20	17	16	9		**Leader**	SS
WS-C-01:	Water Quality Mgt Plan	29	5	17	8		**Leader**	CW
WS-C-02:	Instream Groundwater Recharge	32	50	12	29		**Partner**	CW
WS-D-02:	ID of Uses in Coyote Watershed/BP Update	34	4	4	6		**Partner**	WS
WS-E-02:	Stormwater Discharge Reduction Program	10	19	33	11		**Partner**	CW
WS-F-01:	TMDL/Diazinon Management Program	55	29	52	47		**Partner**	CW
FP1-A-01:	Stormwater Retrofit Pilot Study	9	40	35	21		**Leader**	SS
FP1-A-02:	Land-use Decision Seminars	44	41	10	30	In Progress	**Leader**	CW
FP1-B-01:	Hydrologic Data Collection Network	59	38	53	53		**Leader**	CW
FP1-B-02:	Storm Water Detention and Infiltration	6	3	32	4		**Leader**	CW
FP1-B-03:	Property Buy-out	11	30	2	2		**Leader**	CW
FP1-B-04:	L. Silver Cr Flood Protection Project	1	52	18	17	In Progress	**Leader**	SS
FP1-B-05:	L. Silver Cr/Thompson Cr Flood Protection Project	3	58	42	34	In Progress	**Leader**	SS
FP1-B-06:	U. Penitencia Cr FP/Bypass Project P	4	54	21	19	In Progress	**Leader**	SS
FP1-B-07:	Berryessa/Calera Cr Flood Protection Project	2	53	19	18	In Progress	**Leader**	SS
FP1-B-08:	Coyote Cr Flood Protection Project	5	55	22	20	In Progress	**Leader**	SS
FP1-B-09:	E. Penitencia Cr Flood Protection Project	13	60	56	59		**Leader**	SS
FP1-B-10:	Fisher Cr Flood Protection Project	7	56	25	39		**Leader**	SS
FP1-B-11:	Fowler Cr Flood Protection Project	8	57	26	40		**Leader**	SS
FP1-B-12:	Los Coches Cr Flood Protection Project	14	61	57	60		**Leader**	SS
FP1-B-13:	Miguelita Cr Flood Protection Project	15	62	58	61		**Leader**	SS
FP1-B-14:	N. Babb Cr Flood Protection Project	16	63	59	62		**Leader**	SS
FP1-B-15:	S. Babb Cr Flood Protection Project	17	64	60	63		**Leader**	SS
FP1-B-16:	Quimby Cr Flood Protection Project	12	59	27	50		**Leader**	SS
FP1-B-17:	Sierra Cr Flood Protection Project	18	65	61	64		**Leader**	SS
FP1-B-18:	U. Silver Cr Flood Protection Project	19	66	62	65	In Progress	**Leader**	SS
FP1-C-01:	Flood Map Update & Insurance	45	42	11	31	Partial	**Leader**	CW
FP1-E-01:	Open Space Acquisition	23	1	14	5		**Partner**	CW
FP2-A-01:	Multi-Objective Design Study	65	23	28	51	In Progress	**Partner**	CW
FP2-B-01:	Coyote Creek Mitigation	51	25	47	43		**Leader**	SS
FP2-B-02:	Stream Channel Restoration	26	11	36	22	In Progress	**Leader**	CW
FP2-C-01:	Coyote Creek Sediment Control	66	31	63	58		**Leader**	SS
FP2-D-01:	Salt/Freshwater Stream Connection Program	52	26	48	44	In Progress	**Leader**	SS
FP2-E-01:	Trash Collection in Stream Channels	22	13	3	3		**Partner**	CW
EH-A-01:	Stream and Wetland Revegetation Project	27	12	37	23	In Progress	**Leader**	CW
EH-A-02:	Habitat Protect., Enhancement & Restoration Plan	41	7	38	27	In Progress	**Leader**	CW
EH-A-03:	Palassou Ridge Restoration	46	14	43	35		**Leader**	SS
EH-A-04:	Invasive Species Control Program	35	9	5	7	In Progress	**Leader**	CW
EH-B-01:	Coyote Watershed Cr Restore/Inventory Study	40	6	34	26		**Partner**	WS
EH-B-02:	SRA Habitat Conservation/Augment Program	31	22	41	33	In Progress	**Leader**	CW
EH-B-03:	Habitat Conservation Plan	50	24	46	42		**Leader**	CW
EH-C-01:	Fish and Frog Screens	64	51	55	66		**Partner**	CW
EH-C-02:	Native Warmwater Fish Program	30	21	40	32		**Leader**	CW
EH-C-03:	Salmonid Recovery Program	54	28	51	46		**Partner**	CW
EH-D-01:	Fish Passage Improvements	53	27	50	45		**Leader**	CW
EH-F-01:	Biological Corridor/Habitat Land Acquisition	42	8	39	28		**Partner**	CW
EH-F-02:	Salt Pond Reoperation	47	15	44	36	Partial	**Leader**	CW
EH-G-01:	Wetland Mitigation Project	48	16	45	37		**Leader**	CW
CPR-A-01:	Homeless Encamp Minimization Program	49	48	13	38	In Progress	**Supporter**	CW
CPR-A-02:	Public Safety Improvements	58	44	31	49		**Partner**	CW
CPR-B-01:	Public Access Sanitation Improvements	43	20	24	24		**Partner**	CW
CPR-C-01:	New Recreational Trails	33	49	30	41		**Partner**	CW
CPR-C-02:	Open Spaces, Trails & Parks MP	21	2	1	1		**Partner**	CW
CPR-C-03:	Removal of Intrusive Recreational Feat.	25	18	20	12		**Partner**	CW
CPR-C-04:	Upper Penitencia Ponds Recreation Area	28	37	23	25		**Partner**	SS
CPR-D-01:	K-12 Watershed Education Programs	39	35	9	16		**Partner**	CW
CPR-E-01:	Community Watershed Ed. Programs	38	34	8	15		**Partner**	CW
CPR-F-01:	Non-Native & Exotic Species Ed.	37	33	7	14		**Partner**	CW
CPR-G-01:	Community Watershed Stew. Program	36	32	6	13		**Partner**	CW
A-1:	Firebreaks Program	57	43	29	48		**Leader**	CW
A-2:	Maintenance Work Order Manual	62	46	65	56		**Leader**	CW
A-4:	Facilities Assets Mgmt System	63	47	66	57		**Leader**	CW
A-5:	Stream Morph. Class & Hierarchal Inventory	56	36	49	52		**Leader**	CW
A-6:	Coyote Watershed Training Program	61	45	64	55		**Leader**	WS
A-7:	Cherry Flat Reservoir	24	10	15	10		**Leader**	SS
A-8:	Non-District Pollution Control Facilities Program	60	39	54	54		**Leader**	CW

Abbreviations

CW = Countywide
WS = Watershed Specific
SS = Site Specific

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Coyote Watershed
Stream Stewardship Plan

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Chapter 1   Introduction

The Santa Clara Valley Water District's Board of Directors established the Ends Policy to further the District's mission for comprehensive water/flood management programs to better serve the community. The Ends Policy, in part, envisions a watershed in which:

1. There is a healthy and safe environment for residents and visitors.
    1.1 There is a reliable supply of healthy, clean drinking water
    1.2 There is a reduced potential for flood damages.
2. There is an enhanced quality of life in Santa Clara County
    2.1 Watersheds, streams, and the natural resources therein are protected and when appropriate enhanced or restored.
    2.2 There are additional open spaces, trails, and parks along creeks and in the watersheds when reasonable and appropriate.

The Santa Clara Valley Water District (District) developed the Coyote Watershed Stream Stewardship Plan (Plan) to provide a strategic approach for implementing the Ends Policy using a watershed management approach for stream stewardship within the Coyote Watershed. As a result of the Board's direction, the District sponsors and/or supports a number of ongoing initiatives to enhance the environment in County watersheds, and monitors efforts to protect water quality, prevent pollution, and protect important water-related ecosystems. Other agencies in Santa Clara County have projected long-term population growth, land use, transportation infrastructure and recreational opportunities that may affect the District's assets in the future and may affect District efforts to enhance the quality of life. However, no plan has captured the needs of any Coyote Watershed, and identified a long-term vision for stream corridors. A map of the entire Coyote Watershed is shown as Map 1-1.

The Coyote Watershed Manager realized that there were flood protection projects currently being designed that may or may not be completely in line with the Board's Ends Policy. No assessment of the watersheds had been performed and the Watershed Manager decided to fast-track a watershed plan to identify issues impacting those projects, such as:

- Development Policies.
- Habitat Enhancements;
- Hydrology/Hydraulics;
- Land Use;
- O&M Strategies;
- Recreation (Trails, Reservoirs);
- Sediment Mitigation;
- Transportation; and
- Water Quality;

This effort led to the realization that an evaluation of these issues on a watershed level would streamline efforts, and result in a document that would allow future Watershed Managers to read and immediately become familiar with important watershed issues. This led to the development of the Coyote Watershed Stream Stewardship Plan.

The Plan will be used by the District to make long-range projections, manage the District's assets and develop a comprehensive approach to achieving the District's Ends Policy. The Plan identifies the current conditions within the watershed, identifies currently planned projects, develops a vision, goals and objectives for the Watershed, identifies candidate projects, programs, activities, and guidelines to help achieve the vision, ranks projects on their ability to meet watershed goals and objectives, describe coordination with projects external to the District (e.g., transportation projects) and identifies implementation strategies for the Plan.

1.1 Contents of the Plan

The outline of the Plan was developed in coordination with the Coyote Watershed Workgroup. A summary of what each chapter contains is summarized in Table 1-1.

TABLE 1-1: COYOTE WATERSHED STREAM STEWARDSHIP PLAN OUTLINE

Stream Stewardship Plan Contents
Chapter 1 Introduction - Brief summary of the Plan’s purpose and content.
Chapter 2 Regulatory and Jurisdictional Issues - Identify governmental and regulatory agencies that manage and regulate the Coyote Watershed, the jurisdiction of each agency, and summarize the regulations and programs set forth by the various agencies. Provide an overview of other stakeholder groups.
Chapter 3 Watershed Physical Conditions - Describe the physical watershed characteristics and the conditions of the Watershed
Chapter 4 Environmental, Biological and Recreational Resources - Describe the existing Coyote Watershed riparian, aquatic, wetland, open space and recreational conditions
Chapter 5 District Policies - Summarize the existing District policies and procedures in the watershed.
Chapter 6 Existing O&M Activities - Summarize District operations and maintenance activities within the Watershed.
Chapter 7 Current and Planned Watershed Projects - Summarize major activities planned by the District and other local stakeholders that may contribute to the attainment of the District’s Ends Policy
Chapter 8 Watershed Vision and Goals - Develop the Coyote Watershed vision, goals, and objectives based on the Ends Policy.

Stream Stewardship Plan Contents
Chapter 9 Candidate Projects and Programs - Identify candidate programs and projects based on meeting the Watershed objectives.
Chapter 10 Candidate Guidelines - Identify candidate guidelines for implementing stream stewardship concepts.
Chapter 11 Candidate O&M Activities - Identify candidate revisions to District O&M procedures based on meeting the Watershed objectives
Chapter 12 Ranking of Programs and Projects - Develop a ranking system based on criteria developed from the Watershed objectives. Rank candidate projects and programs from multiple perspectives
Chapter 13 Funding Strategies - Identify potential funding for candidate projects and activities in the Coyote Watershed
Chapter 14 Implementation - Identify key implementation for the Stream Stewardship Plan and describe relationship to existing District implementation policies.
Appendix A – Stream Characterization data
Appendix B – Summary of Current or Planned Coyote Watershed Project
Appendix C – Candidate Project Detail Sheets

In addition, there are three appendices as follows:

Appendix A:	Summarizes existing watershed streams
Appendix B:	Summarizes existing projects
Appendix C:	Project Detail Sheets for each candidate program or project.

1.2 Preparation of the Plan

The District realized that in order to efficiently and effectively prepare the Plan, significant coordination with local stakeholders would be required. It was determined that creating a new stakeholder forum would duplicate efforts currently underway within the Santa Clara Basin Watershed Management Initiative (WMI), and a decision was made to request the creation of a new subgroup to act as Plan stakeholders. This subgroup, titled the Coyote Watershed Workgroup (CWW), was created as a subgroup of the Flood Management Subgroup (FMS), and was requested to assist in the preparation of the Plan.

The WMI, is a collaborative, stakeholder driven effort among representatives from regional and local public agencies, and provided an excellent opportunity to easily coordinate with a very diverse group of local stakeholders. A major aim of the WMI is to coordinate existing regulatory activities on a basin wide scale, ensuring that problems are addressed efficiently and cost-effectively. The CWW was a beneficiary of this aim. The FMS was selected to house the CWW because this group was the most closely aligned with the goals of the Plan, and is currently developing and assessing criteria that could be incorporated into future flood protection and creek restoration projects on rivers and streams such as those located in the Coyote Watershed.

Their workplan of the CWW contained the following tasks:

- Provided input and review of Plan products;
- Provided suggested projects, activities and studies for the District to pursue;
- Determined linkages between products, activities and studies;
- Identified gaps in the available information;
- Assisted in ranking identified projects, activities and studies; and
- Assisted in preparing preliminary cost estimates for projects, activities and studies.

In addition, the CWW participated in many additional phases of the project development above and beyond those identified in the work plan. These included the development of vision, goals and objectives for the Coyote Watershed and input regarding the Plan outline and contents. The CWW met monthly to address the items in their work plan, and many stakeholders provided written comments on the Plan. These comments were reviewed by Staff and incorporated into this 1st compilation document. The CWW chair also provided monthly reports to the WMI Core Group.

There were four levels of public outreach/participation for the Plan as summarized below.

1. **Monthly Report to WMI Core Group**

   Notes for Coyote Workgroup meetings are distributed at each WMI Core Group meeting, or through Core Group mailing or e-mails.

2. **Regular E-mail Distribution**

   Representatives of the following groups have been on the e-mail distribution list receiving meeting announcements and notes, along with draft documents.

   - San Francisco Bay Bird Observatory
   - Roosevelt CAT Staff Council
   - Silicon Valley Pollution Prevention Group

3. Regular Workgroup Meetings

Representatives of the following groups received briefings on the project progress, participated in the Workgroup discussions, and contributed to the compilation of the chapters.

- Valley Transportation Authority
- Santa Clara County
- League of Women Voters
- Santa Clara Valley Urban Runoff

4. Provided Written Comments

Representatives of the following groups provided written comments.

- U.S. Environmental Protection Agency,
- San Francisco Bay Regional Water Quality Control Board,
- City of San Jose,
- CLEAN South Bay,
- Flycasters,
- Santa Clara County Streams for Tomorrow
- Santa Clara Valley Audubon Society

1.2.1 Role of District

The District funded and managed the completion of the Plan since its inception in 2000. The Plan was originally funded by the CEO/GM through the Performance, Efficiency, and Accountability Program. This Program, at the discretion of the CEO/GM, funds projects that benefit the District and present a opportunity to capitalize on opportunities that would otherwise be lost if not funded. This allowed the Plan to be created as District Operating Project No. 007464. Subsequently, additional funding from the Coyote Watershed Fund and Watershed and Stream Stewardship Fund was identified to fund the remainder of the project.

Originally created as a project under the direction of the Coyote Watershed Program, management of the Plan was transferred to the office of Countywide Watershed Programs Unit during late 2000. This Unit is responsible for centralizing and managing common services that provide support to all watersheds, including community projects review, ecological services, watershed planning and regulatory compliance. The Office of Countywide Watershed Management worked directly with the Coyote Watershed program and Staff to manage the development of the Plan.

1.3 Relation to other activities

There are a number of on-going regional efforts in parallel to the Plan. The results of those regional efforts are important to the management of Coyote Watershed in the long run. The Plan is intended to provide a logical framework for establishing the linkage to these efforts rather than to short cut or to duplicate them. It is also important to recognize the Plan is not the end of the District's efforts for stewardship efforts; it is rather a coherent framework for coordinated efforts within the Coyote Watershed. One of the on-going regional efforts is the WMI, which is an important organization in leading the efforts to coordinate and integrate implementation of the Ends Policy throughout the Santa Clara Basin. The WMI will assist in identifying projects and activities that will help the District and other stakeholders meet the Ends Policy. However, due to staffing, time and other limitations, the District determined work must proceed on developing projects, activities and studies immediately for the Coyote Watershed. It is the intention of the District to link the product of the Plan into the Watershed Assessment Report and Watershed Action Plan that are to be developed by the WMI.

The Coyote Watershed Plan differs from the WMI in three major aspects:

- It proposes specific development policies for the District to pursue for new developments within the Coyote Watershed, and potentially for the District as a whole. The District will attempt to use these policies to respond to the flurry of development related activity in the Coyote Watershed.
- The Plan is collecting information on all projects impacting the stream corridor areas of the Coyote Watershed, including transportation, restoration, mitigation, flood protection and new construction projects, and developing potential linkages between them.
- It will help qualify for grants through the State Water Bond (Proposition 13) since funding provisions within the Bond favor projects that have used a watershed approach in their development.

It is anticipated that the results of the Plan will jump start activities to complete the Watershed Action Plan. The Plan will provide the District with a detailed catalog of candidate projects from which the Board can select. When the WMI completes the Watershed Action Plan, it is also anticipated that these results will be incorporated into the Plan as future updates occur.

1.4 Acknowledgements

Development of the Plan was a collaborative effort of a number of people within the District and the Coyote Watershed Workgroup. Many different divisions and units of the District were utilized as technical reviewers, drafters or informational sources for the Plan. A partial list of these is shown below

- Capital Program Services Division
- Water Supply Management Division
- Watershed Management Division;
    - Watershed Field Operations Unit
    - Watershed Program Support Unit
    - Countywide Watershed Programs Unit
    - Ecological Services Unit;
    - Watershed Planning Unit;
    - Community Projects Review Unit
- Public Information Office
- Water Utility Operations Division

Special acknowledgement is made to the following people for their diligent efforts in completing the Coyote Watershed Stream Stewardship Plan.

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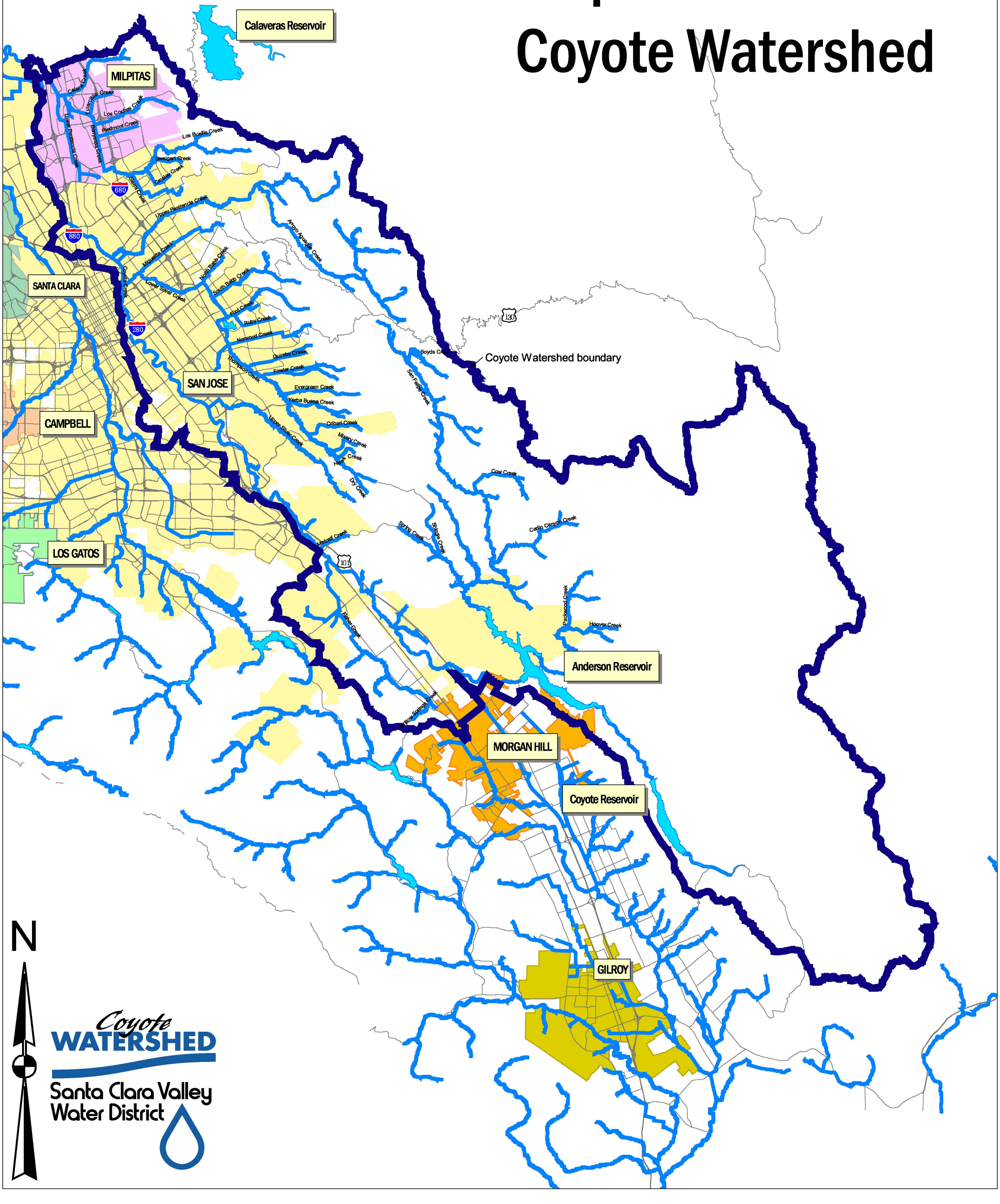
Map 1-1:
Coyote Watershed



Coyote
WATERSHED
Santa Clara Valley
Water District

Chapter 2 Regulatory and Jurisdictional Issues

This chapter briefly discusses the authority of local, state, regional and federal resource and regulatory agencies that manage or regulate the Coyote Watershed, and outlines the jurisdiction of each agency. Non-government entities involved in watershed activities are also identified.

2.1 Governmental Setting in Santa Clara County

Activities within the Coyote Watershed are affected by five levels of governmental authority:

- Santa Clara County;
- Municipalities, e.g. San Jose, Milpitas;
- Special Assessment Districts, e.g. Santa Clara Valley Water District (District), Guadalupe Coyote Resource Conservation District;
- State Agencies; and
- Federal Agencies;

Their watershed related responsibilities may involve addressing or dealing with issues such as water quality, wetlands or flood protection. Map 2-1 depicts a map of the Coyote Watershed, Santa Clara County and the surrounding region. The following sections will summarize the range of responsibilities for each of the aforementioned agencies. Table 2-1 presents a partial listing of Regional, State and Federal Agencies with regulatory or oversight authority within the Coyote Watershed. Agencies that are the lead agency (primarily responsible) for that regulatory topic are marked as “L”, whereas agencies that can comment or provide support to the lead agency regarding those regulations are marked as “C”.

Table 2-1: Roles of Local, Regional, State and Federal Agencies for Watershed Issues

Agency	SW Quality	GW Quality	Drinking Water	Water Rights	Wetland	Dredging	Fish & Wildlife	Agri	Flood Prot.	Haz. Mat.	Land Use
REGIONAL											
Local Agency Formation Commission (LAFCO) for Santa Clara County											C
Guadalupe-Coyote Resource Conservation District							C				
*Regional Water Quality Control Board	L	L	C	C	L	L	C	C	C	L	C
*Santa Clara Valley Water District									L		
San Francisco Bay Conservation and Development Commission	C				L	L					L
STATE											
*State Water Resources Control Board	L	C	C	L	C	C	C	C		L	
*Department of Fish and Game	L			C	C	C	L				C
*State Lands Commission					C						L
Department of Toxic Substances Control		L								L	C
Department of Health Services	C	C	L								C
*Department of Water Resources				L					C		

Agency	SW Quality	GW Quality	Drinking Water	Water Rights	Wetland	Dredging	Fish & Wildlife	Agri	Flood Prot.	Haz. Mat.	Land Use
*California Environmental Protection Agency	L	L	L		L	C		C		L	
Department of Pesticide Regulation								L			
Integrated Waste Management Board		C									C
State Office of Historic Preservation					C						
FEDERAL											
Environmental Protection Agency	L	L	L		C	C		C		L	
Army Corps of Engineers					L	L			L		
Bureau of Reclamation				L					C		
Coast Guard	L										
Federal Emergency Management Agency									C		
Natural Resources Conservation Service	C	C						C			C
National Marine Fisheries Service	C				C		L				
Fish and Wildlife Service	C				C		L				

* = Agency directly related to watershed management
L = Lead agency, with permitting, enforcement, or implementing authority
C = Commenting agency to the lead agency
Sources:
Watershed Management Characteristics Report, July 2000 Draft, Watershed Management Initiative, Table 2-1: Listing of Coyote Watershed Regulatory Agencies

2.1.1 Santa Clara County

Santa Clara County consists of fifteen cities, three of which are located within the Coyote Watershed: San Jose, Milpitas and Morgan Hill. The county has jurisdiction over all unincorporated lands located outside the Urban Service Areas (USAs), and maintains a general plan for future development on lands within the County's jurisdiction. It also maintains a Zoning Ordinance that includes zoning designations for all the parcels of land within the jurisdiction. This ordinance regulates the use of land, as well as how it gets built out (i.e., in terms of height, bulk and massing).

The cities' land use decisions are not legally bound by the County's General Plan. However, most of the cities have policies in their own general plans that are very similar to the County's, and thus can contribute to implementation of the County's General Plan. Actions which support the County's General Plan are required from special districts, such as the District, as well. In general, the cities are responsible for urban development, whereas the County's land use designations and zoning ordinances are for rural unincorporated areas. As a result of this, the County is obligated to not allow urban development in unincorporated lands in an effort to provide areas for urban expansion (if needed) and to conserve natural resources.

Santa Clara County is a member of SCVURPPP, and is therefore committed to controlling urban runoff to streams and creeks, such as Coyote Creek. Santa Clara County also can be a source of open spaces and recreational opportunities and partnerships for the District's Coyote Creek watershed activities.

Santa Clara County Open Space Authority (SCCOSA): The SCCOSA was created by the State Legislature, in response to efforts by citizens and local governments, to acquire undeveloped land for agricultural and habitat preservation, regionally significant trail segments, greenbelts between cities, and urban open space. The SCCOSA is governed by a directly elected Board of Directors, and is funded by a benefit assessment district within the Authority's boundaries. These boundaries include the cities of Campbell, Milpitas, Morgan Hill, Santa Clara, and San Jose, as well as unincorporated of Santa Clara County that do not within the Mid-Peninsula Open Space District jurisdiction.

The SCCOSA could be a potential partner to the District regarding obtaining and/or managing areas of open space, particularly for the Palassou Ridge property (which is adjacent to Coyote Lake) and Alum Rock Park (which is on Upper Penitencia Creek).

2.1.2 Municipalities

The municipalities included in the Coyote Watershed include portions of Milpitas, San Jose and Morgan Hill. Each city has jurisdiction over any lands that are within its own city limits. Cities are responsible for making sure that planned developments comply with all local requirements and provide the necessary public infrastructure improvements to serve their development.

All three cities maintain general plans that govern the future development of the city within the urban service area. Each city has authority over plan review, zoning and permitting within its boundaries, and may consult the District for technical review and assistance. Developers are typically required to plan their development to comply with the local general plan and other regulations, which can require the construction of infrastructure such as roadways, sidewalks, traffic signals, storm drains and sewers in order to mitigate the impact of the development on the existing infrastructure.

2.1.2.1 Local Agency Formation Committee for Santa Clara County

The Local Agency Formation Committee (LAFCO) is a state mandated local agency set up to oversee the boundaries of cities and special districts, which includes the Santa Clara Valley Water District. The main goal of a LAFCO is to encourage the establishment of orderly boundaries, discourage urban sprawl, and preserve agricultural and open space lands.

Any proposal to annex, or add land to a city or special district, create a new city or special district, remove land from a city's or special district's jurisdiction, or the consolidation, merger, or dissolve of cities or special districts must be reviewed and approved by LAFCO. LAFCO cannot initiate these boundary changes on their own, however in 1994 they were given the power to initiate proposals involved with the dissolution or consolidation of special districts, or the merging of an existing subsidiary district. Also, LAFCO must review and approve of all proposals to amend spheres of influence or urban service areas.

Cities and districts are required to obtain LAFCO's approval before entering into contracts with private individuals or organizations when the cities or districts will provide services outside of their boundaries.

LAFCO is in charge of determining the spheres of influence for local governments. This boundary is necessary to determine which governmental agencies can provide services to the people and property in the most efficient way in a given area. Creating these boundaries limits urban sprawl by preventing overlapping jurisdictions and duplication of services.

LAFCO also resolves conflicts between city and county general plans so that efficient urban service areas are created, and it encourages local governments to review their current operations to minimize service duplications and overlaps.

The LAFCO of Santa Clara County would affect the District if the District wanted to add or remove land from its jurisdiction, change its sphere of influence, or if it wanted to enter into a contract with private individuals or organizations to provide services outside the District's jurisdiction. This could include providing flood control or providing habitat restoration assistance to areas outside the District's jurisdiction.

2.1.2.2 San Jose

San Jose, with a population of 894,943, is the third largest city in California, and the eleventh largest city in the nation (Census 2000, 2000). The city has an incorporated area of 177 square miles, including parts of the Diablo Range and San Francisco Bay. San Jose's general plan addresses seven different strategies for the City, such as economic development, growth, and housing. As part of the general plan, the City has a Greenline Initiative/Urban Growth Boundary (UGB) policy, and a Riparian Corridor Policy. The UGB policy determines the limits of urban development in San Jose, and improves the City/County coordination of land use in non-urban areas. The Riparian Corridor Policy Study supplements the general plan's riparian policy. The study provides standards for limiting the environmental impacts of new development on riparian corridors. The Riparian Corridor Action Plan, the follow up document to the Study, also looks at ways to compensate for past environmental damage done to these corridors (City of San Jose, 2001).

San Jose is part of the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP) as a co-permittee. This means that the city strives to meet the performance standards set forth in the SCVURPPP program by developing their own Urban Runoff Management Plan.

The City of San Jose would directly influence the Coyote Watershed by controlling land use and development in its jurisdiction along the creeks and streams, as well as controlling stormwater runoff through its Urban Runoff Management Plan. San Jose has also been apart of FAHCE to help restore salmonid fisheries in Coyote Creek.

2.1.2.3 Milpitas

The City of Milpitas, with its population of approximately 54,000, covers over 13.6 square miles within the north section of the Coyote Watershed. The City has planned industrial and highway servicing zones on the east side of the creek, but has a riparian buffer zone between these zones and the creek. As part of the City's Open Space/Conservation Principles and Policies, Milpitas is planning to construct a trail along Coyote Creek, which will eventually become a part of the San Francisco Bay Trail system. Also, Milpitas plans to work with San Jose to create a Coyote Creek linear park chain along Coyote Creek to provide for recreation and flood-control measures (City of Milpitas, 1998). The City also has an UGB plan in association with Santa Clara County.

In addition to the other activities around Coyote Creek, Milpitas is a member of SCVURPPP, and therefore must control urban runoff into streams and creeks.

2.1.2.4 Morgan Hill

Morgan Hill covers 12 square miles, and has a population of 31,900. It lies at the southern end of the Santa Clara valley, approximately 21 miles south of downtown San Jose (Morgan Hill Chamber of Commerce, 2001). Morgan Hill's sphere of influence includes the southern edge of Anderson Reservoir, and parts of Coyote Creek as it flows out of the lake. The City has designated most of the area around Coyote Creek as open space. The City is also working with Santa Clara County in developing a long term UGB, to address urban sprawl and ensures compact urban growth (Santa Clara County Planning Department, 2001).

2.1.3 Santa Clara Valley Water District

The District is a special district, governed by a seven-member board of directors, and is responsible for water supply, flood protection and watershed management in Santa Clara County. The district encompasses all of the county's 1,300 square miles and serves the area's 15 cities, 1.7 million residents, and more than 200,000 commuters.

Potable water is supplied to Santa Clara county by the District from three sources: the South Bay Aqueduct, the San Felipe Project and from underground aquifers. The San Francisco Water Department supplies potable water to portions of the Santa Clara Basin through the Bay Division Pipelines Nos. 3 and 4. Some of the imported water is stored in the aquifers through recharge and direct injection of potable water in twenty locations throughout the basin. The Federal Safe Drinking Water Act, the California Safe Drinking Water Act, and the Toxic Enforcement Act govern the potable water quality in Santa Clara County. A map of District Water Supply facilities in the Coyote Watershed is included as Map 2-2. More information on the District's Operation and Maintenance activities can be found in Chapter 6.

The District is also responsible for the protections of local residents and businesses from the 1% (100-year) flood flows within the local waterways. As a result, the District constructs flood control projects to protect areas from the 1% flood flow, while maintaining waterways to ensure that vegetation is managed, sediments that block passage are removed, and to prevent the erosion of existing flood control structures. Overall, the District maintains a total of 700 miles of creeks and rivers within Santa Clara County. The District maintains a policy of protecting all areas from a 100-year flood, and projects are underway to upgrade existing flood projection facilities to meet this standard throughout the District's service area.

Recently, the Board adopted the Ends Policy, which reflected the Board's commitment to it's mission in a practical, cost-effective and environmentally sensitive manner. On August 9, 2001, the District Act, the District's enabling legislation, was amended to include the authority to enhance, protect and restore streams, riparian corridors and natural resources.

2.1.4 Regulatory Agencies

Table 2.1 summarizes the regional, state and federal agencies regulating various aspects of the Coyote Watershed. The agencies directly related to watershed management identified in this section are prefaced with an asterisk.

A more detailed description of the following agencies follows in this section:

- Department of Health Services
- Department of Water Resources
- Federal Emergency Management Agency
- National Marine Fisheries Service
- San Francisco Bay Conservation and Development Commission
- United States Army Corps of Engineers
- United States Bureau of Reclamation
- United States Environmental Protection Agency/Cal EPA
    - State Water Resources Control Board
    - Regional Water Quality Control Board
    - Santa Clara Basin Watershed Management Initiative
    - California Air Resources Board
    - Department of Pesticide Regulation
    - California Integrated Waste Management Board
- United States Fish and Wildlife Service

2.1.4.1 Department of Health Services

The California Department of Health Services' (DHS) mission is to protect and improve the health of all Californians. DHS oversees enforcement of state drinking water quality laws, such as Title 22 of the California Water Code and the California Safe Drinking Water Act. The United States Environmental Protection Agency is responsible for enforcing the federal Safe Drinking Water Act, but in California it has delegated this authority to DHS. Recycled water quality and usage are also regulated by DHS.

DHS is involved in activities regarding drinking water protection, the recharge of groundwater into a potable water basin, and using recycled water for non-potable purposes, such as streamflow augmentation or groundwater recharge.

2.1.4.2 Department of Water Resources

The California Department of Water Resources (DWR) focuses on managing the water resources of California. DWR's responsibilities include preparing and updating the California Water Plan (CALFED), overseeing and management of the State Water Resources Development System, dam and flood protection regulation and assistance, and assisting with local water needs, such as water supply and watershed restoration. One of the DWR's programs includes the Urban Stream Restoration Program, which was created out of the Urban Creek Restoration and Flood Control Act of 1984. This act allows the DWR to provide assistance to local agencies and organizations for urban creek protection, restoration, and enhancement. These activities include stabilizing natural stream channels, managing riparian vegetation, and maintenance of the stream channel's capacity to meet flood protection needs.

Most of the DWR's activities in the Coyote Watershed are focused on water rights and water rights permitting, providing funding, and possibly providing technical assistance for stream restoration projects.

2.1.4.3 Department of Fish and Game

The California Department of Fish and Game (DFG) is responsible for the management of California's fish, wildlife, and plant resources and their associated habitats. They are to be managed for their ecological values and for their use and enjoyment by the public. DFG prohibits the introduction of exotic species, develops or assists in the development of species recovery plans and habitat conservation plans, and issues permits to limit incidental harm to endangered species (known as incidental take permits) or for streambed alteration.

Section 1601 of the California Fish and Game code gives the DFG the authority to require a streambed alteration Agreement or negotiate a Memorandum of Understanding (MOU) for any activity that will either divert, obstruct, or change the natural flow or bed, channel, or bank of any river, stream or lake which provides fish or wildlife values.

The DFG has influence over the watershed regarding endangered or threatened species, streambed alteration agreements or MOUs for stream maintenance work or flood protection projects. Also, the DFG can provide technical assistance with stream and habitat restoration and mitigation projects. The DFG also manages the Don Edwards San Francisco Bay National Wildlife Refuge, which is located in South San Francisco Bay in the Baylands watershed.

2.1.4.4 Federal Emergency Management Agency

The Federal Emergency Management Agency (FEMA) is responsible for responding to emergencies and natural disasters such as flooding. Its mission is to reduce property damage, loss of life, and to protect the nation's critical infrastructure from hazards through a risk management program. The program is a risk based emergency program focusing on preparedness, response, recovery, and mitigation. FEMA sets the 1% floodplain boundaries, which are defined as the area that would be flooded by a flood that has a 1% chance of occurring in a given year (a 100-year flood). In the event of a flood emergency, FEMA would provide assistance to flood victims.

Most of the flood protection projects in the Coyote Creek watershed are to protect the general public from these 100-year floods. Areas identified as being in the 1% flood plain are usually the candidate areas for flood protection projects, with areas of known flooding from past storm events getting priority.

2.1.4.5 National Marine Fisheries Service

The National Marine Fisheries Service (NMFS) is part of the National Oceanic and Atmospheric Administration (NOAA) and is tasked with supporting the conservation and management of living marine resources. These services include fisheries development, operations, and management, enforcement, habitat and species conservation operations, trade and industry assistance, and scientific and technical aspects of the NOAA's marine fisheries program. The NMFS has five regions in the United States, and the SCVWD is within the Southwest Region. It is the primary agency responsible for the Magnuson Act, which regulates fisheries between 3 to 200 nautical miles offshore. NMFS is also responsible for enforcement of the 4(d) rule of the Endangered Species Act. This rule directs NMFS to issue regulations to provide for the conservation of steelhead and salmon. As part of this rule, the NMFS approves conservation programs that are carried out by state, local, or tribal agencies. The Service also issues incidental take permits for federally endangered and threatened species. The 4(d) rule prohibits the take of any of the 14 groups of salmon or steelhead listed as threatened by the ESA. The central California coast ESU (Evolutionarily Significant Unit) steelhead, which includes the Bay Area, is one of these 14 groups.

The NMFS will be involved with any activities that may impact streams with steelhead or salmon, such as through an incidental take permit, Section 7 (ESA) consultation, or conservation and habitat restoration activities, such as FAHCE.

2.1.4.6 San Francisco Bay Conservation and Development Commission

The San Francisco Bay Conservation and Development Commission (BCDC) is a 27-member board of appointees from local, state and federal agencies. The main responsibilities of the commission include: regulating filling and dredging activities of the San Francisco Bay and its sloughs; creeks; tributaries; and salt ponds; regulating new development within the first 100 feet inland from the Bay; administering the federal Coastal Zone Management Act; and participating in California's oil spill prevention and response planning program.

The Commission's jurisdiction includes: the open water; marshes; and mudflats of the greater San Francisco Bay; the first 100 feet inland from the shoreline around San Francisco Bay; portions of most creeks; rivers; sloughs and other tributaries of the Bay; and salt ponds; duck hunting preserves; game refuges; and other managed wetlands that have been diked off from San Francisco Bay. This BCDC management area encompasses large portions of the Baylands watershed in Northern Santa Clara County, and portions of the Coyote Watershed.

The BCDC influences activities around the mouth of Coyote Creek, particularly regarding stream channel maintenance (which might include dredging) and wetland mitigation projects.

2.1.4.7 United States Army Corps of Engineers

The U.S. Army Corps of Engineers (USACOE) is a federal agency made up of civilian and military engineers, biologists, geologists, hydrologists, natural resource managers, and other professionals that provide engineering and environmental services to the nation. Some of the responsibilities of the Corps include planning, designing, building, and operating water resources and other civil works projects (such as dredging, navigation, flood control, environmental protection, and disaster response), wetlands protection and regulation, and coordinating environmental activities with other federal agencies. The Corps is the chief Federal steward of wetlands, including marshes, tidelands, and vernal pools. Permits are required for discharge of dredge or fill material into waters of the United States (CWA, Section 404), or for the obstruction or alteration of navigable waters (Rivers and Harbors Act, Section 10).

It is the District's interpretation of applicable regulations that USACOE permits are required for sediment removal in tidal streams; bank protection in all streams; temporary construction fill and access in all streams; and minor activities consisting of in-kind repair of levees, culverts and similar structures in all streams, and cleaning of culverts and similar structures in tidal streams. Work in and along Coyote Creek and its tributaries would be subject to these permits. It is interpreted that the Corps does not regulate sediment removal in freshwater streams; channel or upland vegetation management; or any activities in canals (SCVWD, 2001).

2.1.4.8 United States Bureau of Reclamation

The U.S. Bureau of Reclamation's (USBR) mission is to develop, manage, and protect water and its related resources in an environmentally and economically sound manner that is in the interest of the American public. The USBR assists Western States, Native American tribes and others in meeting increasing water demands while protecting the environment and the public's investment in water resources. The agency's programs include stream corridor restoration, recreation, construction of dams, water recycling, reclamation, and reuse.

The USBR's main interaction with the District is that it owns and manages the Santa Clara conduit, one of the three sources of imported water for the Santa Clara Valley.

2.1.4.9 United States Environmental Protection Agency / Cal EPA

The U. S. Environmental Protection Agency's (EPA) main purpose is to protect human health and safeguard the air, water, and land on which life depends. The EPA meets these goals by monitoring, standard-setting, research, and enforcement activities, as well as supporting and assisting research and anti-pollution activities of state and local governments, public and private groups, educational institutions, and individuals. The EPA also monitors other federal agency operations for environmental compliance. The main environmental protection laws that EPA oversees are the Clean Air Act (CAA); the Clean Water Act (CWA); the Safe Drinking Water Act (SDWA); the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, or Superfund); the Resource Conservation and Recovery Act (RCRA); the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA); the Toxic Substances Control Act (TSCA)' the Marine Protection, Research, and Sanctuaries Act (MPRSA); Uranium Mill Tailings Radiation Control Act (UMTRCA); and the Pollution Prevention Act (PPA).

The EPA is broken into ten different regions to provide local coverage. The Region 9 office oversees the District's service area, as well as Arizona, California, Nevada, Hawaii, and U. S. territories and possessions in the Pacific Ocean area.

The Cal/EPA is the state counterpart to the US EPA. Its mission is to improve environmental quality as a way of protecting public health and welfare and California's natural resources in an efficient, equitable, and cost-effective manner. Cal/EPA serves as the "umbrella" agency for the following state agencies: Air Resources Board, Department of Pesticide Regulation, Department of Toxic Substances Control, Integrated Waste Management Board, Office of Environmental Health Hazard Assessment, and the State Water Resources Control Board. Cal/EPA is responsible for the implementation of US EPA statutes, or delegating the authority for implementation of federal statutes to one of the agencies under its jurisdiction. For example, the State Water Resources Control Board is designated as the state water quality agency that EPA has delegated to implement specific provisions of the CWA.

2.1.4.9.1 State Water Resources Control Board

The California State Water Resources Control Board (SWRCB), a part of the California EPA, is in charge of preserving and enhancing the water resources of California. This includes the proper allocation and efficient use of water resources for the benefit of present and future generations.

There are nine regional boards across the state, and the San Francisco Bay Regional Water Quality Control Board (RWQCB) has jurisdiction over the San Francisco Bay Area, including Santa Clara County. With water quality becoming an issue in watershed management, the Regional Board's role has been to assist in identifying problems in the watershed, and be available as the regulating and enforcing agency once a plan has been developed.

2.1.4.9.2 Regional Water Quality Control Board

The mission of the RWQCB is to protect the surface and groundwaters of the San Francisco Bay Region, which includes the northern portions of Santa Clara County. The Regional Board:

(1) Establishes a framework for protecting water quality and beneficial uses of State waters through adoption and update of its Water Quality Control Plan (Basin Plan);
(2) Issues and enforces permits regulating discharges or potential discharges to surface and groundwaters;
(3) Issues orders to secure cleanup of spills and leaks that impair or threaten to impair surface and groundwater quality;
(4) Issues conditions on water quality certification of federal permits affecting wetlands; and
(5) Conducts monitoring and special studies to assist in refinement of its Basin Plan.

The Regional Board has encouraged the development of local watershed planning efforts, such as the Santa Clara Basin Watershed Management Initiative, as a means of securing the actions needed to comply with the Basin Plan.

The RWQCBs, through the SWRCB, have jurisdiction over any water, surface or underground, including saline waters, within California (California Water Code 13050[e]). This jurisdiction extends to all waters of the State and to all waters of the United States (under the Porter-Cologne and CWAs, respectively). The San Francisco Bay RWQCB specifically states that wetlands, marshes, and mudflats are within the definition of State waters.

2.1.4.9.3 Santa Clara Basin Watershed Management Initiative

The US EPA, the SWRCB, and the San Francisco Bay RWQCB created the Santa Clara Basin Watershed Management Initiative (WMI) in order to address water quality concerns in the Bay and the Santa Clara Basin watershed on a basin wide scale. Stakeholder groups help determine the priorities of the WMI, as they have a vested interest in the future basin management. One of the main goals of the WMI is to develop and implement a watershed management plan for the basin. Many of the activities and interested stakeholders of the WMI are also part of the Coyote Watershed. These are discussed in this document as appropriate. Additional information on WMI can be found at their website, http://www.scbwmi.org/.

2.1.4.9.4 California Air Resources Board

The California Air Resources Board (ARB) protects public health, welfare, and ecological resources by reducing air pollutants. It acts as the lead agency for implementing and enforcing air pollution rules, regulations, and standards in the state. ARB monitors the regulatory actions of California's 35 local air districts. Permits are usually issued at the local level, however ARB recently has issued a new permit process for portable engines and equipment (non-motor vehicles). Woodchippers and well drilling equipment are examples of portable equipment that are regulated by this program.

Most of the regulatory actions taken by the ARB affect the watershed indirectly. Air pollutants can mix with rain or fog, and then enter the watershed as polluted runoff. Currently, ARB and the Bay Area Air Quality Management District are working together on an air deposition pilot project for the San Francisco Estuary Institute and BAPPG to address this problem (WMI, 2000).

2.1.4.9.5 Department of Pesticide Regulation

The California Department of Pesticide Regulation (DPR) regulates all aspects of pesticide sales and use. The DPR protects public health, the environment, and encourages reduced-risk pest management practices while recognizing the need to control pests. Most of DPR's activities include evaluating and mitigating environmental and human health impacts of the use of pesticides.

The District uses some herbicides in streamside vegetation management, and therefore is regulated by the DPR.

2.1.4.9.6 California Integrated Waste Management Board

The California Integrated Waste Management Board (CIWMB) is one of the six agencies within the Cal EPA department, and is responsible for managing California's solid waste. The Waste Board focuses on conserving resources and developing recycling markets, and recently implemented legislation mandating a 50% reduction in solid waste disposal to landfills.

The CIWMB affects the Coyote Watershed indirectly by developing and promoting used oil and tire recycling (these products do not end up in the creeks), and regulates landfills and composting. Debris from flood protection and other projects may be subject to regulation in order to limit the amount of material going to landfills. CIWMB also has programs to use recycled materials in public playgrounds and parks that could be used in recreational facilities in the Coyote Watershed.

2.1.4.10 United States Fish and Wildlife Service

The U.S. Fish and Wildlife Service (USFWS) is the Federal agency that oversees the conservation, protection, and enhancement of fish, wildlife, and plants and their associated habitats. The Service manages the National Wildlife Refuge System, fish hatcheries and restoration under the Fisheries program, conserves and restores wildlife, and enforces Federal wildlife laws, such as the Endangered Species Act. The USFWS issues incidental take permits for endangered land, plant and animal species and non-marine aquatic species. Permit applicants must develop a habitat conservation plan as part of the permit process in order to limit the take as much as possible. USFWS also works closely with USACOE in issuing its Section 10 and Section 404 permits, and NMFS with endangered migratory fish species and fisheries conservation.

In general, USFWS has authority over terrestrial and continental aquatic species, whereas NMFS has authority over species that spend all or part of their life cycle at sea (such as coho and Chinook salmon and steelhead trout). The USFWS also oversees the implementation of the Migratory Bird Treaty Act of 1918 that prohibits the destruction or possession of individual birds, eggs, or nests in active use without a scientific collecting or special purpose permit from USFWS. Work on Coyote Creek and its tributaries that might affect sensitive fish and wildlife by damaging their habitat or harming individual species will require permits or consultations with the USFWS.

2.1.5 Special Districts

Special districts are a form of local government. Under California Law, a City or a County can form a special district to provide public services that are not being provided. In general, these districts tend to be single purpose in nature, and are governed by a publicly elected Board of Directors.

2.1.5.1 Bay Area Air Quality Management District

The Bay Area Air Quality Management District (BAAQMD) is responsible for developing and enforcing air pollution regulations in Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara and Napa, southwestern Solano and southern Sonoma counties. The BAAQMD adopts reasonable air quality plans, sensible regulations, flexible permitting, compliance assistance, and proactive enforcement as a progressive approach to regulating air pollution. It provides permits for stationary source emission points, such as smokestacks. Activities that produce large amounts of dust or smoke may require a permit, depending on the amount of air pollutant involved and any mitigation measures that are being used. However, most watershed management activities such as road construction, burning flood debris, or burning vegetation to improve flood control are generally exempt from the permit requirements.

The BAAQMD develops and enforces local air quality regulations, which is monitored by ARB. The district must meet state and national air quality standards as part of its regulatory program. Like the California Air Regional Board, BAAQMD's regulation of air pollutants limits these pollutants from entering the streams through polluted runoff from fog and rain.

2.1.5.2 Santa Clara Valley Transportation Authority

The Santa Clara Valley Transportation Authority (VTA) is an independent special district responsible for bus and light rail operations, congestion management, specific highway improvement projects, and countywide transportation planning. As such, VTA is both a transit provider, and a multi-modal transportation planning organization involved with transit, highways and roadways, bikeways, and pedestrian facilities.

VTA can potentially affect the watershed through stream crossings and stormwater runoff from construction activities, or provide benefits through providing transit service and bikeways to watershed recreation areas.

2.1.5.3 Guadalupe-Coyote Resource Conservation District

The Guadalupe-Coyote Resource Conservation District (GCRCD) is public agency of California comprised of locally appointed or elected officials. It is one of 103 special districts set up under California Department of Conservation, Title 9 to encourage resource conservation. The GCRCD is involved with the Santa Clara County Fisheries and Aquatic Habitat Collaborative Effort (FAHCE). The GCRCD is working closely with the District and others to address the cumulative impacts on salmon and steelhead and their habitats in the Guadalupe River, Coyote Creek and Stevens Creek. The Conservation District is also providing input to the District on the Lower Silver Creek project within the Coyote Watershed. This project will restore the channelized creek to its natural state, using native plants and sound fluvial geomorphological principles.

2.1.6 Stakeholder Groups

Stakeholder groups are cross-sections of the community, and can represent groups directly impacted by District activities regarding Coyote Creek. There are ten specific stakeholder groups identified in this report located within the Coyote Watershed. They are:

- California Nature Conservancy;
- Santa Clara County Streams for Tomorrow;
- CLEAN South Bay;
- Santa Clara Valley Audubon Society;

- San Francisco Bay Bird Observatory;
- Citizens Committee to Complete the Refuge;
- California Farm Bureau;
- Cattleman's Association;
- San Jose Flycasters, Inc.; and
- Western Waters Canoe Club.

2.1.6.1 California Nature Conservancy

The California Nature Conservancy is a non-profit organization committed to safeguarding California's land and water resources and the species they support. The Conservancy meets these goals through education and acquiring land for preservation and protection. The group owns the Lakeview Meadows Ranch, which is bounded to the south and east by Coyote Creek. Currently the group is working with the Santa Clara County Open Space Authority to annex the property adjacent to Henry Coe State Park, as well as the preservation of Palassou Ridge (Section 2.1.2.1).

2.1.6.2 Santa Clara County Streams for Tomorrow

The goal of the Santa Clara County Streams for Tomorrow is to promote the restoration, conservation, and preservation of Santa Clara County's stream and riparian resources. The group seeks to protect habitat and fish and wildlife resources by overseeing and participating in the environmental review and regulatory processes for projects and activities that impact streams and riparian corridors. This includes participation in environmental stakeholder efforts and monitoring project compliance with regulatory requirements. This organization is a participant in the WMI.

2.1.6.3 CLEAN South Bay

CLEAN South Bay's focus is to protect South San Francisco Bay and its tributary creeks and watersheds from toxic pollution, to protect wetlands and stream-side riparian habitats, and to help implement the WMI. CLEAN South Bay is a participant in the WMI.

2.1.6.4 Santa Clara Valley Audubon Society

The main purpose of the Santa Clara Valley Audubon Society is to maintain, preserve, and protect the native animal and plant habitats of the South Bay area, with the primary focus being on bird habitat and ecosystems. Santa Clara Valley Audubon Society is a participant in the WMI.

2.1.6.5 San Francisco Bay Bird Observatory

The San Francisco Bay Bird Observatory, located in Alviso area of San Jose, is a non-profit research organization dedicated to performing research, monitoring, and education regarding bird habitat and conservation. It provides research findings to government agencies, industry, and the public in an effort to support natural resource management decisions made for the San Francisco Bay region. The San Francisco Bay Bird Observatory is a WMI participant.

2.1.6.6 Citizens Committee To Complete the Refuge

The Citizens Committee to Complete the Refuge (Refuge Committee) is a non-profit organization that is dedicated to protecting the remaining endangered wetlands in the middle and South San Francisco Bay regions. The Refuge Committee acts through educational, political, legislative, and legal means to accomplish its goals.

2.1.6.7 California Farm Bureau

The California Farm Bureau is a voluntary, non-governmental, non-partisan organization of farm and ranch families. The main focus of the bureau is to provide solutions for the farm and ranching communities through various policies and programs. The Santa Clara County Farm Bureau is a participant in the WMI.

2.1.6.8 Cattleman's Association

The Cattleman's Association represents the beef cattle industry in legislative and regulatory affairs. This includes being apart of decisions and actions regarding water quality, wildlife, property rights and other issues affecting the cattle ranching industry. The Santa Clara Cattlemen's Association is a participant in the WMI.

2.1.6.9 Flycasters, Inc. of San Jose

One of the general goals of the club is to encourage and promote the conservation of wild trout, warm and salt water fish populations so that these resources will continue to be available for the pleasure and recreation of its members. Flycasters, Inc. of San Jose is a WMI participant.

2.1.6.10 Western Waters Canoe Club

Western Waters Canoe Club is a group of active open boat paddlers with a wide variety of paddling interests, from calm estuaries to whitewater rivers. Their purpose as a club is to promote the sport of canoeing, which includes support of local and regional conservation efforts, and share knowledge of places to paddle.

2.2 Regulatory Review

This section briefly reviews the regulatory agencies involved in governing the Coyote Watershed, and is classified by type of jurisdiction. The following subjects are reviewed in this Section:

- Flood Management and Flood Control
- Water Quality
- Drinking Water Quality
- Recycled Water
- Water Rights
- Wetlands and Riparian Zones
- Sensitive Species
- Fisheries
- Vegetation
- Vector and Exotic Species
- Pesticides
- Land Use

This section is intended to guide the reader into how the regulations and jurisdictions of the agencies impact the Coyote Watershed. For more detailed information about the history and development of these regulations, the reader is referred to Chapter 6 of the WMI Watershed Characteristics Report (WMI, 2000).

2.2.1 Flood Management and Flood Control

US Army Corps of Engineers, FEMA, Department of Water Resources, and the District oversee flood control and management activities in the Coyote Watershed. California's Water Code contains provisions for building and managing flood control systems, such as works, improvements, levees, or check dams; protection and reforestation of watersheds; construction projects on projects outside of the county if a river or stream affects more than one county; and conserving floodwaters.

Since these control systems could impact wildlife and aquatic habitats, the Water Code states that California's fish and wildlife resources need to be preserved and enhanced in connection with these projects. The District's Ends Policy 2.1 also addresses the District's goal of protecting natural resources, and to enhance and restore areas when appropriate. The State of California finds this is necessary in order to protect the general health and welfare of the public, and these flood control and watershed projects should be used to their full potential, providing recreational opportunities to the public if possible. Also, the Codes state that fish and wildlife enhancement and recreational development should be one of the objectives of flood control and watershed protection projects.

Table 2-2: Flood Control / Flood Management Regulatory Agencies

Regulation	Agency	Key Points
California Water Code, Division 5, Sections 8100 and 12840	DWR	Flood management and water protection in California Provisions for: • Flood control structures • Protection/reforestation of watersheds • Conservation of floodwaters • Construction outside of county or district to control floodwaters within the county Incorporation of fish and wildlife protection and public recreational opportunities into flood control measures
SCVWD Ordinance 83-2	SCVWD	Ordinance addressing floodplain management issues within the District. This ordinance is summarized in Table 2-3.
General Flood Protection	USACOE	• Planning, designing, building and operating water resources and other civil public works projects (Navigation, Flood Control, Environmental Protection, Disaster Response, etc.). • Construction and maintenance of dams • Design and construction of flood control facilities • Maintenance of flood control facilities
Disaster Prevention and Assistance and Flood Insurance	FEMA	• Advice on building codes and flood plain management • Floodplain identification and flood insurance • Disaster preparedness, providing disaster assistance available to states, communities, businesses and individuals

2.2.1.1 Ordinance 83.2

District Ordinance 83-2, as amended on October 11, 1985, defines the District's limit of responsibilities in the areas of flood control, watercourse maintenance, joint use projects and dedications. It also specifies prohibitions against the pollution of District water supplies, damage to District projects and encroachment or interference with District facilities. This Ordinance is to secure the health, safety and welfare of the people of the District by prudent floodplain management, by protecting the quality of District water supplies, and by securing maintenance of watercourses and prohibiting injury to District property and projects and harmful amendment of watercourses. The major policies outlined in District Ordinance 83-2 are summarized below. A copy of the entire document is available on-line at http://www.scvwd.dst.ca.us/doingbus/ORDIN2.HTM.

The District's Ordinance 83-2 regulates the following:

- Maintenance of watercourses by owner (maintenance of watercourses on non-District property);
- Discharge of drainage water into watercourses, except water supply or recharge facilities;
- Flood control responsibility of the District;
- Prohibitions, which include polluting water supplies of the District, performing work that alters (excavation, construction, planting, etc.) a floodway, levee, or area within the banks of a watercourse, or trespassing on District property;
- Permitting procedures for permits required by the Ordinance - permitted activities include performing work that alters (excavation, construction, planting, etc.) a floodway, levee, or area within the banks of a watercourse, or trespassing on District property;
- Encouraging joint use for appropriate District projects;
- Request for dedications and construction to the District from landowners in order for the District to provide flood control services;

Ordinance 83-2 applies to all creeks, channels, and floodways within the District's boundaries are subject to the District's jurisdiction, but the ability of the District to perform maintenance activities may be affected by ownership, easements, or right to access. The District generally owns either a fee simple interest or an easement in the channels, but the right of way on a creek varies greatly. Land rights on natural channels usually include 20 feet from the top of the bank. For modified channels, right of way is usually several feet outside of the maintenance road. The District also has jurisdiction and general land rights over its water supply and conveyance facilities including canals (SCVWD, 2001).

The ordinance also prohibits the pollution of the water supplies of the District, whether in surface streams, reservoirs or conduits of any kind, or of groundwater, by any direct or indirect means whatever, including the deposit of polluting matter of any kind upon the banks of a watercourse, lake or reservoir where the same may reach or affect such water supplies, and including the discharge of polluting storm waters or sanitary sewage, is prohibited. Without having first secured a permit (pursuant to Section 7 of the Ordinance), or other written approval from the District, it is also prohibited to do any of the following:

- Construct or place any structure or perform any grading within a designated floodway between the banks of a watercourse, or within 50 feet of the top of such banks;
- Construct, place or maintain any structure or perform any grading upon a levee or on a District project;
- Excavate within a designated floodway, upon a levee, or upon or between the banks of a watercourse or District project;
- Deposit material of any kind within a designated floodway, upon a levee, or District project, or upon or within the banks of a watercourse;
- Construct or place any outlet for discharging drainage waters within a designated floodway, upon or within the banks of a watercourse, or District project;

- Plant any form of flora upon or within the banks of a watercourse or a District project; and
- Trespass in any manner whatsoever including the driving of vehicles on any property in which the District owns a fee simple interest or on which the District owns an exclusive easement for flood control, drainage or water conservation or distribution purposes, except such areas as have been opened to and developed for public recreational or other use.

2.2.2 Water Quality

Water quality is regulated in California through several different federal and state laws. The Clean Water Act (CWA) and the California Porter-Cologne Water Quality Control Act control pollution and water quality by control and regulation of municipal and industrial wastewater discharges. The Porter-Cologne Water Quality Control Act and the CWA, as amended in 1987, also address nonpoint source pollution from runoff. Besides these laws, the DFG regulates streambed alteration and their impacts on waterfowl and aquatic life through the State Fish and Game Code.

TABLE 2-4: SUMMARY OF WATER QUALITY REGULATIONS

Regulations	Agency	Key Points
Porter-Cologne Water Quality Control Act (California Water Code 13000)	SWRCB/ RWQCB	• Designates Beneficial uses of state waters • Sets water quality objectives to protect and maintain beneficial uses • Implements programs to achieve these objectives through basin plans • Authorizes regulation and enforcement by the State and Regional Boards through issuance of Waste Discharge Requirements (WDRs)
Clean Water Act (CWA) 402, 319, 303(d), 303(e), 305(b)	EPA	• Regulation of point source pollution through a National Pollution Discharge Elimination System (NPDES) program for municipal, industrial and stormwater discharges to surface waters §402 • Nonpoint Source (NPS) Management Program that provides funding to states for studies and requires development of NPS management plans. §319 • Requires states to identify and prioritize waters for which effluent limitations are not stringent enough. Total Maximum Daily Loads (TMDLs) must then be developed for these areas. §303(d) • Necessitates a Continuing Planning Process (CPP) be developed by the states for navigable waters with provision for effluent limitations, basin plans, TMDLs, and program implementation. §303(e) • Implements a two-year schedule for states to submit a description of the quality of the state's waters to the EPA. §305(b)

Regulations	Agency	Key Points
Coastal Zone Management Act (CZMA) Coastal Zone Act Reauthorization Amendments (CZARA)	NOAA	• Guidelines for coastal NPS programs, includes funding for implementation of Best Management Practices (BMPs), TMDL implementation, and other coastal water quality enhancement projects.
Fish and Game Code (California) 5650	CDFG	• Forbids the following substances to be placed where they are in, will enter, or could enter California waters: • Any petroleum, acid, coal or oil tar, lampblack, aniline, asphalt, bitumen, or residuary product of petroleum, or carbonaceous material or substance. • Any refuse, liquid or solid, from any refinery, gas house, tannery, distillery, chemical works, mill, or factory of any kind. • Any sawdust, shavings, slabs, or edgings. • Any factory refuse, lime, or slag. • Any cocculus indicus. • Any substance or material deleterious to fish, plant life, or bird life. [See, more appropriately, the CWC that has the real authority to prohibit these discharges].

2.2.2.1 Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act provides for fish and wildlife preservation, aesthetic values, water reclamation, and comprehensive regulation and planning in an effort to provide the highest “reasonable” water quality amid conflicting water demands. This Act outlines the responsibilities and authorities of the SWRCB and the nine RWQCBs. The Act ensures California’s eligibility to implement the NPDES permit process, designating the SWRCB as the lead agency for implementing the federal Clean Water Act in California.

Under the Porter-Cologne Act, anyone proposing to discharge materials that could affect water quality (including discharges of fill or other materials to wetlands) may need to meet project specific “waste discharge requirements” from the RWQCB. In addition, any applicant for a Section 404 permit under the federal CWA from the US Army Corps of Engineers for an activity which may affect water quality also must apply to the appropriate RWQCB for Water Quality Certification under Section 401 of the CWA. The RWQCBs can waive Water Quality Certification or discharges that will not violate water quality standards.

Water quality control plans are required as part of the Porter-Cologne Act for State waters. The San Francisco Bay Water Quality Control Plan, or Basin Plan (January 2001), contains surface water quality objectives intended to maintain thriving aquatic ecosystems. Objectives are provided for bacteria, bioaccumulation, biostimulatory substances, color, dissolved oxygen, floating material, oil and grease, population and community ecology, pH, salinity, sediment, settable material, suspended material, sulfide, tastes and odors, temperature, toxicity, turbidity, unionized ammonia, specific chemical constituents, constituents of concern to municipal and agricultural water supplies, and radioactivity. Some of these objectives are specific numerical limits, whereas other are narrative. The San Francisco Bay Basin Plan also includes specific effluent limitations for some pollutants and more general discharge prohibitions in several water quality areas such as turbidity and toxicity.

These water quality objectives are necessary to support beneficial use designations of water bodies. The Basin Plan identifies the following beneficial uses of State Waters for the Coyote Watershed:

- Cold freshwater habitat – uses of water that support cold water ecosystems, including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates;
- Fish migration – uses of water that support habitats necessary for migration, acclimatization between fresh water and salt water, and protection of aquatic organisms that are temporary inhabitants of water within the region;
- Preservation of rare and endangered species – uses that support habitats necessary for the survival and successful maintenance of plant or animal species established under state and/or federal law as rare, threatened, or endangered.
- Water recreation – recreational uses that do not include direct water contact, such as picnicking, sunbathing, hiking, beachcombing, camping, boating, etc. There is a potential for direct contact recreational uses, such as swimming, wading, water-skiing, fishing, etc.;
- Fish spawning – uses of water that support high quality aquatic habitats suitable for reproduction and early development of fish;
- Warm freshwater habitat – uses of water that support warn water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates;
- Wildlife habitat – uses of waters that support wildlife habitats, including, but not limited to, the preservation and enhancement of vegetation and prey species used by wildlife, such as waterfowl.

The RWQCB is charged with protecting these water uses from pollution and nuisance for the people of California through water quality control measures and limits, as defined in the plan.

2.2.2.2 Federal Clean Water Act

The main objectives of the Clean Water Act (CWA) are to restore and maintain the chemical, physical, and biological integrity of the nation's waters. As a way to evaluate the water quality of these waters, the CWA provides the framework for beneficial use designations, and the criteria that must be met to protect them. These designations define what the standards are for judging the health of a waterbody as part of a continuing planning process. For California, this requirement has been met by preparing basin plans (see Porter-Cologne Act). Other programs Congress established as part of the CWA to control water quality includes:

- National Pollutant Discharge Elimination System (NPDES), which controls stormwater and wastewater discharges,
- National Pretreatment Program, which controls discharges to public treatment systems, and
- Nonpoint Source Management Program, which requires states to identify and assess water quality problems on a watershed-by-watershed basis as a way of controlling nonpoint source pollution.

Section 303(d) of the CWA describes how states must identify and prioritize their TMDL lists for impaired water bodies (see Section 2.2.2.4 CWA 303(d) and TMDL).

2.2.2.3 NPDES Storm Water Program

Mandated by Congress under the Clean Water Act, the National Pollutant Discharge Elimination System (NPDES) Storm Water Program is a comprehensive two-phased national program for addressing the urban sources of storm water discharges that adversely affect the quality of the Nation’s waters. The Program uses the NPDES permitting mechanism to require the implementation of controls.

The first phase of the NPDES Storm Water Program mandated by the Congress under the Clean Water Act targeted storm water discharges associated with the most likely sources of wet weather pollution: “medium” and “large” municipal separate storm water systems (MS4s), which generally serve populations of 100,000 or more people, and eleven categories of industrial activity, including construction that disturbs five or more acres of land. Phase two of the NPDES system will further refine the regulations to include small MS4s (any MS4s not covered under Phase I) and construction activities that disturb one acre or more.

Stormwater Pollution Prevention Program: The U.S. Environmental Protection Agency has identified urban storm water run off as a significant cause of pollution to natural water bodies. In the San Francisco Bay, Federal and State agencies have identified urban runoff as a major source of pollution to the South Bay. The RWQCB regulates storm water discharges through the issuance of a waste discharge permit pursuant to the MS4 NPDES storm water permit process. The RWQCB mandates that local agencies are responsible for implementation of Storm Water Management Programs.

To control storm water pollution, the District, the County of Santa Clara, and the thirteen local cities are issued a joint permit. Areawide activities are managed jointly through the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP). The program focuses on preventing pollution in urban runoff to Santa Clara Valley waterways and the San Francisco Bay. SCVURPPP sponsors a number of projects from public outreach and information to the implementation of environmental indicators in the watershed in an effort to satisfy its goals.

The District maintains approximately 400 miles of watercourse right of way in the portion of Santa Clara Valley subject to NPDES permitting. Pollutants which may be discharged to the watercourses and/or through others' storm drains which lead to District watercourses include sediments, pesticides, untreated and treated drinking water, irrigation water, various solid and liquid wastes, and rubbish, refuse, and trash. Sources of these potential pollutants can be classified into three general categories: 1) pollutants generated or mobilized as a result of District activities (e.g., capital improvement project construction, operation, and maintenance); 2) pollutants illegally deposited into District facilities (illegal dumping); and 3) pollutants carried by runoff, storm drains, or other permitted discharges from urban areas.

District activities that are potential sources of pollutants include construction of capital improvements for flood control protection or water supply, improved channel and dam maintenance, and water utility operations and maintenance. Other source of pollution not associated with District activities include illegal dumping, unplanned or accidental spills (such as discharges from fire-fighting activities, vehicle accidents, or negligence), discharges resulting from variances issued by the Regional Board (such as construction dewatering and lagoon cleaning), and discharges resulting from permits issued by the Regional Board containing Waste Discharge Requirements.

Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP): Fifteen agencies, co-permittees under a stormwater discharge permit issued by the Regional Water Quality Control Board, comprise SCVURPPP. Each agency implements urban runoff pollution controls within its own jurisdiction by producing an Urban Runoff Management Plan. A management committee coordinates joint efforts among the co-permittees, allowing them to act as one to reduce urban runoff pollution in the Santa Clara Valley watershed. By pursing agency-specific activities and contributing to joint activities, each co-permittee endeavors to protect water quality in local creeks and South San Francisco Bay while compiling with all of the regulatory requirements that govern urban runoff pollution control programs. See the Santa Clara Valley Urban Runoff Pollution Prevention Program, Urban Runoff Management Plan (available in the District library) for a full description of the program.

There are three categories of sources that may produce pollutants that go into storm drains. These are 1) urban sources that are within the authority and ability of municipal government to address, 2) urban sources that are beyond the regulatory authority of municipal government or that municipal government does not have the ability to address, 3) non-urban sources, which are beyond the regulatory authority of municipal government. The goal of the program is to reduce all of these sources of pollution.

The District has prepared an Urban Runoff Management Plan, which is one of the chapters of the SCVURPPP plan. For pollutants that are generated or mobilized as a result of District activities (such as capital improvement projects, facility maintenance, and vegetation control), erosion control must be in place for any construction and maintenance activities that would result in generating pollutants. Generally this is met by requiring the contractor to prepare and implement a Storm Water Pollution Prevention Plan as described in the Storm Water NPDES Permit for Construction Activities. This can be required for sites that are covered by a Construction Permit or sites that are not covered, but have the potential to significantly impact storm water.

The District's Storm Water Pollution Prevention and Erosion Control Committee, compromised of representatives from various pertinent working units within the District, meets regularly to develop policy and address emerging issues. The District has developed and implements Storm Water Pollution Prevention Plans for all District corporation yards, water treatment plants, material storage yards, a pump plant, and a warehouse. Santa Clara County oversees storm water pollution prevention activities at parks and recreational facilities on District property, since the County is in charge of all maintenance and operations of park facilities. The District does not operate facilities for recreation. Vegetation and erosion must be controlled at District facilities. These controls for all flood control facilities are implemented employing Best Management Practices that ensure all forms of environmental degradation, including storm water pollution, are avoided. Water utilities are protected via a Water Utility Pollution Prevention Plan addressing storm water pollution form operations and maintenance of District water supplies.

2.2.2.4 CWA 303(d) and TMDL

Section 303(d) of the Clean Water Act requires States to identify waters that do not meet water quality requirements after applying effluent limits for point sources. These point sources can be sources, other than POTWs that are based on the best practicable control technology that is currently available, or, for POTWs, effluent limits based on secondary treatment. Once these impaired waters have been identified, States must prioritize the waters or watersheds for Total Maximum Daily Load (TMDL) development. This information is complied in a list (the 303(d) list) and submitted to the USEPA by the states for review and approval.

TMDLs are documents that describe the strategy for attaining a specific water quality and the related impairment as identified on the list. TMDLs can include more than one water body and more than one pollutant. On May 12, 1999, EPA transmitted the final 1998 Section 303(d) list of water bodies and pollutants needing TMDLs within the State of California. This list can be found on the SWRCB website [http://www.swrcb.ca.gov] (RWQCB, 2001). The Coyote Watershed has one creek, Coyote Creek, currently listed as an impaired water body for the pesticide diazinon [please point out that all urban creeks in the region are also listed for this particular contaminant and that EPA recently pulled the registration on this pesticide. The identified source of diazinon is urban runoff/storm sewers. The TMDL priority is considered low, and a ruling date had not been set on the 1998 TDML list. However, the San Francisco Bay Region TMDL Schedule that was released in October 2000 stated that San Francisco Bay urban creeks contaminated with diazinon would have the TDML report completed by June 2002.

2.2.2.5 Fish and Game Code Section 5650

This code regulates water pollution in California waters and is enforced by the Department of Fish and Game. It prohibits the discharge of substances or materials to surface waters in California that may harm fish, vegetation, or bird life, excluding wastewater treatment plant discharges. The California Water Code regulates those flows.

2.2.3 Drinking Water Quality

Drinking water quality is protected through several federal and state laws that focus on protecting drinking water sources. The Safe Drinking Water Act is the main federal law, which required EPA to establish national drinking water quality standards as well as regulate state underground injection control programs. California implements this law through the California SDWA, Title 22 of the California Code of Regulations. Under these laws, states must prepare assessment programs of areas that supply public drinking water, such as watersheds and reservoir systems, and evaluate the water system's susceptibility to contamination.

The Safe Drinking Water and Toxic Enforcement Act, or Proposition 65, is a state law that also protects drinking water sources. Proposition 65 applies to certain chemicals and business activities. Businesses, if they have certain amounts of any listed chemical, must notify people prior to exposure. They are prohibited from discharging significant amounts of these listed chemicals into drinking water sources.

TABLE 2-5: SUMMARY OF DRINKING WATER QUALITY REGULATIONS

Regulations	Agency	Key Points
Federal Safe Drinking Water Act (SDWA) California SDWA Title 22	USEPA DHS Cal EPA, DHS	• Federal guidelines implemented on the state level by the Cal SDWA and Title 22 • Protective measures for water sources • Allowable levels of drinking water contaminants • Requires public notification of drinking water quality
Proposition 65	Cal EPA	Protects state drinking water sources by listing chemicals of concern and requiring: • Businesses to warn people of exposure to listed chemicals • Prohibits discharge of listed chemicals into drinking water supplies

2.2.3.1 Groundwater

Groundwater provides nearly half of the water supply for Santa Clara County. The District has a general groundwater monitoring program in place to detect any changes in groundwater quality or quantity. It tracks trends and changes, or highlights areas of special concern. The District manages the basin, providing water meeting water quality requirements to local water retailers. A physical description of the groundwater basin appears in Chapter 3. Additional information regarding groundwater management of the basin is included in Chapter 6.

Under the SDWA, new Wellhead Protection Program was developed in 1986 to protect ground waters that supply drinking water wells of public water systems. Under SDWA Section 1428, each State was required to prepare a Wellhead Protection Program and submit it to EPA. The Source Water Assessment Program (SWAP) was established by the 1996 Amendments to the SDWA. The key elements of this program, which include protection area and zone delineation, inventory of possible contaminating activities, and vulnerability analysis, are also elements of a Wellhead Protection Program.

California enacted its own legislation in order to meet these federal requirements. The Groundwater Management Act (Assembly Bill 3030) took effect in January 1993. Under this act, local water agencies or groups of agencies can create their own ground water management plans according to their own requirements and may raise money to run them. This act allowed a Wellhead Protection Program to be an element of a Groundwater Management Plan.

Section 116762.60 of the California Health and Safety Code requires DHS to develop and implement a program to protect sources of drinking water. The program is to include a source water assessment program and a wellhead protection program. This has led to activities such as evaluating using recycled water to recharge groundwater aquifers, and research and controls on groundwater contaminants such as nitrates, NDMA, and MTBE.

Groundwater quality is also regulated by the RWCQB through groundwater quality objectives outlined in the Basin Plan. These objectives include limits on bacterial counts, organic and inorganic chemical constituents, radionuclides, and taste and odor. In general, the RWQCB considers all groundwaters suitable, or potentially suitable for municipal or domestic water supply. Exceptions to this generality include high (>3000 mg/l) dissolved solids, contamination of the water that cannot be treated, the water supply yield is too low, or the aquifer is a geothermal energy-producing source.

District Ordinance No. 90-1 states that a well permit from the District is required for any water well or deep excavation that intersects the groundwater aquifers of Santa Clara County. Specifically, “no person shall dig, bore, drill, deepen, modify, repair, or destroy a water well, cathodic protection well, observation well, monitoring well, or any other excavation that may intersect ground water without first applying for and receiving a permit as provided in this ordinance unless exempted by law.” The District has well drilling standards for monitoring, water supply and exploratory boring wells, as well as destruction requirements. The District's process for applying for a well permit application process is summarized at http://www.scvwd.dst.ca.us/doingbus/wellspm.htm.

2.2.3.2 Surface Water

As described above, 1996 amendments to the federal SDWA developed the Source Water Assessment Program, which defines areas that supply pubic drinking water and evaluates water system susceptibility to contamination. These amendments also require the USEPA to list potential contaminates, not subject to proposed or final national regulation, that are known or anticipated to occur in public drinking water supplies. These contaminates may be regulated at a future date.

There are also two new public right-to-know activities that the USEPA is responsible for. One is that public drinking water system operators must notify the public within 24 hours after discovering acute contamination of the water, such as by nitrates, fecal coliform, and waterborne diseases. The other requires public water systems to produce and publicize to their customers a Consumer Confidence Report that explains the source of the water, how it is treated, what the constituents of the water are, and whether any state or federal drinking water standards have been violated (WMI, 2000).

2.2.4 Recycled Water

The South Bay Water Recycling Program (SBWRP) provides advanced tertiary treatment for wastewater effluent from the San Jose/Santa Clara Water Pollution Control Plant to produce recycled water for use within Santa Clara County. Recycling wastewater reduces the volume of freshwater discharged to the salt marsh areas of the South San Francisco Bay, protecting existing salt marsh habitat and providing a sustainable water supply to the South Bay. Large amounts of freshwater discharges can change the salinity of the salt marshes, turning them into brackish marshes. The California Clapper Rail and the Salt Marsh Harvest Mouse are two endangered species that depend on the salt marsh ecosystem for their survival.

Many sites within the Coyote Watershed are currently receiving recycled water, including portions of Milpitas, Evergreen and East Valley. SBWRP is currently delivering up 10 million gallons per day (MGD) of recycled water during peak periods, and annual deliveries of approximately 5000 acre-feet (AF).

TABLE 2-6: SUMMARY OF WATER RECYCLING REGULATIONS

Regulations	Agency	Key Points
Water Recycling Act California Water Code 13577	Cal EPA	Identifies the need, safety, and general use of recycled water in California for non-potable applications. These applications include the protection and enhancement of fisheries, wildlife habitat, and riparian areas.
Title 22 Health and Safety Code Sec. 60305	DHS	Recycled water that is used for impoundments that may have public contact require disinfected tertiary level treatment.

2.2.5 Water Rights

The United States Constitution guarantees that navigable waters in any state shall be considered "common highways and forever free." In California, the state constitution prohibits any individual, joint, or corporate landowners from obstructing navigable waters. Various California codes have provisions for public access, the use of waterways, and the rights to waterway navigation.

California uses a dual system of water rights based on riparian and appropriative rights. Riparian rights state that landowners adjacent to water have a right to use the water, whereas appropriative rights give water rights to land not adjacent to water. However, this dual system of rights must provide for the reasonable and beneficial use of water.

Water rights are also governed and affected by water contracts, water reclamation, public trust doctrine, and conservation. The "public trust" doctrine states that water and natural resources belong to the public, and they must be protected for future generations. This doctrine restricts state lands to uses such as waterways for navigation, commerce, fisheries, environmental protection, and recreation. For instance, the State Lands Commission assures that tidal and non-tidal waterways projects comply with public trust doctrine.

TABLE 2-7: SUMMARY OF WATER RIGHTS REGULATIONS

Regulations	Agency	Key Points
US Constitution Commerce Clause	USACOE USFWS NMFS USGS USBR	All navigable waters to remain free
California Constitution California Public Resources Code, Sect 6301	DWR SWRCB RWQCB CDFG	• Forbids obstruction of waterways by private entities & landowners • Affirms public access and use of waterways in California

Regulations	Agency	Key Points
California Civil Code, Sect 830 California Harbors and Navigation Code, Sect 100	PUC SLC	
California public trust doctrine	DWR SWRCB RWQCB CDFG PUC SLC	• Water resources are public property and are held in trust by the state • Restricts usage to navigation, commerce, fisheries, recreation, and environmental protection

2.2.6 Wetland and Riparian Zones

Section 404 of the Clean Water Act is the primary federal program regulating wetland activities. The section requires that permits must be obtained from USACOE. Certain farming, maintenance, and construction activities are exempt from these permits.

Generally, wetlands include swamps, marshes and bogs. Wetland delineation varies from agency to agency, however the elements common to definitions used by the US EPA, USACOE, USFWS are:

1. A hydrologic regime typified by standing water
2. Hydric or saturated soil
3. Presence of plants adapted to waterlogged conditions

State, regional, and local agencies may have their own definitions of a wetland, but usually it is based on these three elements.

The California Wetlands Conservation Policy (Executive Order W-59-93) establishes State guidelines for wetland conservation. The primary goal for this Executive Order is to ensure no overall net loss of wetlands and to achieve a long-term net gain in quantity, quality, and permanence of wetland acreage in California. In general, the RWQCBs requires that any application proposing loss of wetlands also provide mitigation within the same section of the region, wherever possible, so that there will be not net loss of wetland acreage and no net loss of wetland value when the project and mitigation are evaluated together.
The term "riparian" is most easily defined as "streamside," or living, located, or related to a natural watercourse, such as a river. A riparian zone or corridor refers to both the aquatic and terrestrial resources that are linked to these watercourses. These zones are important, as they provide habitat for aquatic and some terrestrial organisms, preserve water quality by removing sediments from runoff, protect stream banks from erosion, providing floodwater storage, and as a way to preserve open space and aesthetic surroundings. The Coyote Watershed contains

approximately 16,900 acres of riparian corridors, which constitutes 8% of the watershed (WMI, 2000).

In an effort to protect riparian zones, the CDFG requires permits for the use of materials from a streambed or for projects where the natural flow or other aspects of a water body will be altered, such as streambed alteration. These permits are Streambed Alteration Agreements. Specifically, if the project will “divert, obstruct, or change the natural flow or bed, channel, or bank of any river, stream or lake” that provides fish or wildlife values, a Streambed Alteration Agreement or a Memorandum of Understanding will be required for the project. For the District, the CDFG has interpreted this code to include construction work, grading, and vegetation management in perennial and intermittent streams. At times, CDFG staff has also interpreted this code to include flood protection structures, such as overflow channels, which are adjacent to the banks of the natural stream (SCVWD, 2001).

The District’s Ordinance 83-2 requires project review and a permitting process for any project or works that is planned within 50 feet of any watercourse that drains more than 320 acres in an effort to minimize impacts to watercourses, creeks, lakes, streams, ponds, and reservoirs. This is further summarized in Section 2.2.1.1.

Joint Aquatic Resources Permit Application (JARPA): In an effort to assist public agencies with the often complex permitting process regarding riparian and wetland areas, the JARPA program was created in order to streamline the permitting process. The purpose of this demonstration project is to develop a process and permit application form that consolidates federal, state and local permits and simplifies the permit process for applicants. The form can be used in the San Francisco Bay Area for project proposing construction, fill placement, public access impingement, and other development activities in or near aquatic environments and wetlands. In general, the activities that affect “waters” of the state or United States, which includes streams, wetlands, bays, or other water bodies.

State agencies involved include Resource Agency, CDFG, Coastal Commission, Coastal Conservancy, San Francisco Conservation and Development Commission, SWRCB, RWQCB, State Lands Commission. Federal agencies involved include USFWS, USACOE, USEPA, NMFS, and NRCS.

TABLE 2-8: SUMMARY OF WETLAND OR RIPARIAN REGULATIONS

Regulations	Agency	Key Points
CWA, 404	USACOE USEPA	Regulates activities, such as dredging, filling, development, etc. affecting wetland integrity by requiring permits for activities in wetlands, administered by USACOE.

Regulations	Agency	Key Points
CWA, 401	SWRCB RWQCB	State review of permits for activities and/or discharge in wetland areas.
Rivers and Harbor Act, Sect 10	USACOE	Regulates the discharge of dredged or fill material to water courses.
Executive Order, 11990	USACOE USEPA	Regulates federal agency activities that may impact wetlands
California Wetlands Conservation Policy (Executive Order W-59-93)	RWQCB	Wetland conservation and prevents net loss of wetland habitat in California
CDFG Code, 1601	CDFG	Requires notification of any activities affecting the natural flow or other aspects of a water body (Streambed Alteration Agreement)
Other Regulating Agencies		Various permitting requirements from the following agencies: USACOE, US EPA, SWRCB, RWQCB, SLC, BCDC, CDFG
SCVWD Ordinance, 83-2	SCVWD	Ordinance to minimize impacts watercourses, creeks, streams, lakes, ponds and reservoirs. This ordinance is summarized in section 2.2.1.1

2.2.7 Sensitive Species

Sensitive species are plants and animals that have been declared endangered, threatened, or a "species of concern." To prevent the loss of these species, the federal and state governments list sensitive species per the Endangered Species Act (ESA) as a way to protect plants and animals from extinction through habitat conservation. There are three main sections of the ESA, Section 6, Recovery Planning; Section 7, Consultation, and Section 9, Prohibition of Take.

Section 6 requires the USFWS and NMFS to determine how threatened or endangered species can be recovered to the point where they no longer require listing under the Act. Recovery is defined as the process that will reverse the decline of an endangered or threatened species by eliminating the threats to its survival. The main goal is to restore the species to the point where it is a "secure, self-sustaining part of the ecosystem." Once a species has made a recovery, it is removed from the endangered species list.

Section 7 of the ESA directs Federal agencies to use their legal authorities to carry out conservation programs for listed species. Any actions, such as development projects, that federal agencies fund, have permit authority over, or carry out, are not likely to jeopardize the survival of a listed species. If the activities will affect a listed species, that agency must consult with either the USFWS or NMFS to obtain a biological opinion describing the affects of the project on an endangered or threatened species or their critical habitat. For species that have not been listed yet, but are proposed for listing, Federal agencies must confer with USFWS or NMFS, though the opinions would not be legally binding.

The USFWS can officially designate an area as critical habitat for a species under section 7(a)(2) of the ESA. Federal agencies cannot authorize, fund, or carry out any action that is likely to destroy or adversely modify that area of critical habitat. On land with no Federal involvement, such as city, county, state, or private land, a critical habitat designation has no regulatory impact. This means that designated critical habitat will not protect a species on non-Federal lands unless the property owner attempts to secure a Federal permit or funding.

Section 9 prohibits the take of a listed wildlife species. The term “take” is defined as “ to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect a federally listed, endangered species of wildlife, or to attempt to engage in any such conduct.” This also applies to incidental take, as would occur if an animal was present in an area under construction, or significant habitat modification or degradation, where it would kill the animal by destroying its source of food, shelter, breeding areas, etc. Special permits are required when projects occur in habitat areas or there may be incidental takes of listed species. The USFWS requires a Habitat Conservation Plan (HCP) as part of obtaining an incidental take permit.

A HCP is developed under 10(a)(1)(B) of the ESA. It requires an applicant to describe the anticipated effect of a proposed taking on a species, and how the take will be minimized and mitigated. The HCP contains a “no surprises” assurance to non-Federal landowners. This assurance states that the take permit will stay in effect for the life of the project. USFWS and NMFS cannot require additional land, water or financial compensation as long as the applicant complies with the permit terms and conditions. However, this “no surprises” assurance is only for those species listed in the HCP. The plan must include candidate species, proposed species, and species of concern.

In general, if a Federal agency is involved in a project, such as through a permit or funding, the project must have a Section 7 consultation in order to avoid or minimize the impacts to any listed species. If no Federal agency is involved in a project, then an incidental take permit will be required if federally listed species may be impacted.

When the USFWS has scientific evidence showing that a certain species should be listed as either threatened or endangered, it is placed on the candidate species list. A species may never have to be listed if the threats to its survival can be remedied in time. A Candidate Conservation Agreement is one way of achieving this. These are agreements between the USFWS and either a Federal or non-Federal party. In a Candidate Conservation Agreement with Assurances, the USFWS agrees that if any species covered by the agreement is listed, and the property owner has implemented the agreement in good faith, USFWS will not require additional conservation measures or restrictions on land, water or resource use beyond those the property owner committed to under the terms of the original agreement. Under these types of agreements, incidental take is authorized through an enhancement of survival permit

(Section 10(a)(1)(A) of the ESA). Property owners with this permit are allowed to take individuals of the covered species as long as the levels of take are consistent with those specified in the agreement.

The CDFG is allowed to issue incidental take permits for California State-listed species under sections 2081(b) and (c) of the California Endangered Species Act (CESA). Take permits, or Section 2081(b) permits, are issued if:

a) The take is incidental to an otherwise lawful activity,
b) Impacts of the take are minimized and fully mitigated,
c) The mitigations are roughly proportional in extent to the take, maintain the applicant's objectives to the greatest extent possible, and the measures are capable of successful implementation
d) Adequate funding is available to implement the minimization and mitigation measures and to monitor compliance with the effectiveness of the measures,
e) The use of the permit will not jeopardize the continued existence of a state-listed species.

An attachment to the permit application requires the permittee to include a mitigation plan that describes the measures that will be used to minimize the take of spices and mitigate impacts of the take. No permit may authorize the take of "fully protected" species and "specified birds." If the project occurs in an area where these species will occur, the applicant must design the project to avoid all take. Complete requirements and procedures for CESA Incidental Take Permits can be found in CCR Title 14, Sections 783.0-783.8 (CDFG, 2001)

Chapter 4 contains information on the type of endangered and threatened species likely to occur in the Coyote Watershed.

Table 2-9: Summary of Sensitive Species Regulations

Regulations	Agency	Key Points
Federal Endangered Species Act (ESA)	USFWS NMFS	• Protects species of fish, wildlife, and plants that are in danger of extinction by promoting habitat conservation for species recovery. • Allows USFWS or NMFS to designate, and review activities in, critical habitat areas. These reviews may lead to more stringent restrictions in other federal programs, such as NPDES permitting. • Provides funding and incentives for states to implement the ESA
Federal Endangered Species Act (ESA), Sect 7	USFWS NMFS	Requires NMFS/USFWS review of activities in designated habitat areas. Provides for incidental take authorization in non-jeopardy cases.
Federal Endangered Species Act (ESA), Sect 9	USFWS NMFS	Prohibits take of an endangered or threatened species

Regulations	Agency	Key Points
Federal Endangered Species Act (ESA), Sect 10	USFWS	Requires Habitat Conservation Plan (HCP) to mitigate impacts of permitted incidental takes.
California ESA, CDFG 2050	CDFG	• Requires review of activities that may impact designated habitat areas. • Provisions for adding or removing species from California's list of endangered or threatened species. • Prohibits the import, export, take, possession, purchase, or sale of any endangered or threatened species, unless authorized through an incidental take permit

2.2.8 Fisheries

The Magnuson Act, or the Magnuson-Stevens Fishery Conservation and Management Act of 1976 created a national program to protect fishery resources from overfishing, rebuild overfished stocks, protect fish habitat, and ensure conservation and full potential of the nation’s fishery resources. The Magnuson Act focuses mostly on coastal and anadromous fish populations. For the Coyote Watershed, these fish would include steelhead and Chinook salmon.

Under the Magnuson Act, the NMFS participates in the NPDES if the discharges will affect essential fish habitat, resulting in tighter controls on discharge limits and additional monitoring requirements.

The DFG has the Anadromous Fisheries Program Act (Fish and Game Code Section 6900 et seq.) and Part 1.7, Conservation and Management of Marine Living Resources to protect fisheries in California. These regulations address maintaining viable populations of aquatic organisms to ensure their continued survival, allowing for recreational and educational fisheries benefits, and developing commercial aquaculture.

Section 5930 of the Fish and Game Code requires that dams do not obstruct fish passages. Sufficient water must be allowed through the dam to protect any fish downstream.

TABLE 2-10: SUMMARY OF FISHERIES REGULATIONS

Regulations	Agency	Key Points
Magnuson Act	NMFS	Emphasis on coastal and anadromous fish populations. Established to conserve and manage fisheries by: • preventing overfishing • rebuilding fish stocks • protecting fish habitat • optimizing yields from US fisheries May result in NMFS review of NPDES permitting.
California Fish and Game Code, General and Section 5930	CDFG	• Maintenance of sufficient populations of all aquatic organisms • Importance of nonextractive uses of California's aquatic organisms (i.e. aesthetic, educational, scientific) • Maintenance of aquatic populations for sport fishing • Maintenance & growth of state fisheries • Development of commercial aquaculture • Requirements for dams to allow passage of fish and supply downstream reaches with sufficient water.

2.2.9 Vegetation

The California Native Plant Protection Act (NPPA) seeks to preserve, protect, and enhance endangered or rare species, subspecies, and varieties of native Californian plants. The NPPA is similar to the California Endangered Species Act in terms of the definitions of “endangered” and “rare” or “threatened.” The cumulative list of endangered, threatened, and rare plant species is listed in 14 California Code of Regulations Section 670.2. The CDFG is responsible for enforcement of the NPPA, and must notify land owners if a listed plant is present and what protection measures can be taken. The NPPA prohibits any person from taking listed plants. If property owners are changing the land use they must notify CDFG at least ten days in advance to allow for plant salvage.

Water Code Section 8450 allows for vegetation on flood control levees, which have been recognized as valuable wildlife, recreational, scenic, and aesthetic resources. Local agencies under the State Water Resources Law of 1945 receive reimbursement for maintenance of these levees.

2.2.10 Vector and Exotic Species Control

Vector control is used to describe both mosquito and non-mosquito pest control, such as wild animals, bees, ants, etc. Mosquito abatement programs and districts focus on mosquito control as opposed to other vectors. Mosquito control represents potential for surface spraying of mosquito abatement chemicals and is often associated with wetland and other aquatic habitats. The Santa Clara County Vector Control District provides mosquito abatement for the Coyote Watershed area. Usually there is cooperation with the surrounding districts for vector control and management, since mosquitoes and other pests can affect a general area.

Mosquito abatement districts respond to public complaints, monitor local mosquito populations, and control these populations if necessary. Monitoring of mosquito populations allows abatement districts to determine the types of mosquitoes present, how many there are, and if they are carrying any diseases. Surveillance and monitoring is performed by trapping adult and larval mosquitoes.

There are several methods of mosquito control available to a district. Biological control of mosquitoes can be accomplished by using microbial agents, such as *Bacillus thuringiensis israelensis* (Bti), or predators, such as mosquitofish. Spraying can also be effective. Each district has its own procedures for determining which control method is appropriate, and works with other regulatory agencies when conducting mosquito control.

The mosquitoes of greatest concern to the area are: the house mosquito (*Culex pipiens*) which is common and the cause of most public complaints; *Culex taralis*, which can carry encephalitis; the western treehole mosquito (*Aedes sierrensis*), which can carry canine heartworm; and *Anopheles freeborni* and *Anopheles punctipennis*, both of which can carry malaria. Most of these mosquitoes breed in standing or quiet freshwater pools or creeks. Local districts regularly monitor for these mosquitoes, and apply control measures when necessary.

Other pests that affect the general public include ticks (responsible for the transmission of lyme disease), yellow jackets, and wild animals, such as raccoons and skunks. Control measures for these vectors vary by district, based on monitoring results or public complaints.

TABLE 2-11: SUMMARY OF VECTOR CONTROL REGULATIONS

Regulations	Agency	Key Points
California Public Health Code	• DHS • Santa Clara County Vector Control District • Alameda County Mosquito Abatement District • San Mateo County Mosquito Abatement District	Provides wide latitude for local districts to determine necessity and extent of vector control

2.2.11 Pesticides

Pesticide use will most likely be a result of some control measures used to spray mosquitoes or for vegetation control. Most mosquito abatement districts prefer to use chemical pesticides as a "last resort."

The District has policies that ensure that herbicides are properly used, and any negative or adverse effects to the environment are avoided or minimized. For instance, all products will be used according to their specifications, and only trained personnel will apply the product. Only herbicides and surfactants registered for aquatic use will be used on streambanks, and non-selective herbicides will not be used on levee slopes unless it is necessary for non-native vegetation control.

Since pesticides have been found to be a major contributor to water pollution, both from agricultural and urban runoff, DPR and SWRCB have formed a Management Agency Agreement in an effort to address this issue. The California Pesticide Management Plan for Water Quality describes how the agencies will work together to protect water quality from the use of pesticides.

TABLE 2-12: SUMMARY OF PESTICIDE REGULATIONS

Regulations	Agency	Key Points
Federal Insecticide, Fungicide, and Rodenticide Act	EPA, DPR	• Pesticides must be federally registered before distribution or sale to any person • Allows state to regulate the sale or use of pesticides, and federally prohibited pesticides cannot be sold or used • Uniformity in pesticide labeling (a state cannot change a federally accepted pesticide label) • Allows states to certify pesticide applicators with EPA approved plan
California Pesticide Contamination Prevention Act	DPR	• Prevents further pesticide pollution of groundwater from legal use of agricultural pesticides
Food Quality Protection Act	EPA, DPR	• Risk assessment and management of the regulation of pesticides • Safety standard of "reasonable certainty of no harm" must be applied to all pesticides used on foods • Mandates a single, health-based standard for all pesticides used in foods • Provides protection for infants and children • Expedites approval of safer pesticides • Creates incentives for effective crop protection rules • Requires periodic reevaluation of pesticide registrations and tolerances to ensure registrations are up to date
California Code Section 6158	DPR	Requires DPR to evaluate and register pesticides before they are sold and used in California. Evaluation includes determining potential water quality problems and toxicity to aquatic biota.

2.2.12 Land Use

California controls the rate and location of development in three different ways: general plans, zoning ordinances, and subdivision ordinances. Counties and general law cities are required to have general plans under the California Planning, Zoning, and Development Law. The plans must include seven categories of activities that could affect development:

- Land Use – Standards for population density, building density, and distribution of land uses
- Transportation circulation – Addresses transportation issues and improvements
- Housing – Need for housing across all income groups, and programs to help meet these needs
- Natural Resource Conservation – Addresses issues such as water conservation
- Open Space – A plan for long-term conservation of open space
- Noise – Identifies potential noise problems and corrective or preventative measures
- Safety – Identifies seismic flood, and wildfire hazards and measures to protect the general public from these hazards.

The cities' and counties' development ordinances, policies, zoning regulations, etc. must comply with the general plan. Local planning policies consist of zoning ordinances and subdivision maps. Zoning ordinances translate the general plan's broad policies into specific requirements for each parcel of land. Zoning regulations regulate how the land is used, as well as the type and design of building (e.g. height, massing, density). If a parcel is to be split, or subdivided into more than four separate parcels, the local governments must follow the procedures outlined in the Subdivision Map Act.

The Subdivision Map Act (California Government Code Sections 66410 et. seq) provides a way for municipalities to regulate and control the design and improvements of subdivisions. Subdivisions are required to have a tentative and final or parcel map. This Act gives the local governments the ability to regulate the land use type and design of subdivisions, such as street alignments, grades, and widths; sanitary and drainage facilities and their alignments and grades; locations and sites of right-of-ways, fireroads, and firebreaks; lot size and configuration; traffic access; grading; park and recreational land dedications; and any other requirements needed in order to maintain consistency with the general plan, such as riparian corridors and buffer zones. The Subdivision Map Act gives power to local governments to influence the amount of impervious surface allowed on developing properties; base conditions approval on CEQA review results; require reasonable onsite and offsite improvements; and implement public improvement standards in residential subdivisions, as long as the standards do not exceed the municipality's own standards and an appropriate ordinance is in place (WMI, 2000). More information regarding land use laws and legislation can be found in *Regulatory Analysis for the San Francisco Estuary* (San Francisco Estuary Project, 1992).

2.3 Summary of Major Regulations

Review of the regulatory framework that governs the Coyote Watershed reveals a multitude of agencies and regulation. Stakeholder processes such as the WMI attempt to facilitate watershed protection and improvements. The SCVWD alone is not able to regulate many of the decisions that impact the Coyote Watershed. The WMI provides a means for interagency collaboration on watershed issues.

Table 2-13: Summary of Watershed Related Regulations

Topic	Regulations and Legislation	Associated Permits	Lead Agencies
Flood Management, and Control	• Water Code Division 5		FEMA California DWR SCVWD
Water Quality	• Federal Clean Water Act • California Porter-Cologne Act	• Waste Discharge Requirements • Industrial Pretreatment Permit • NPDES Municipal Stormwater Permit • NPDES Wastewater Permit	SWRCB RWQCBs
Drinking Water Quality	• SDWA • California SDWA • Title 22 • Proposition 65	• Annual Water Quality Report • Consumer Confidence Report • Public Water Supply Permits	USEPA California EPA DHS
Water Rights	• Appropriative rights process • Riparian rights process • Public trust doctrine		California DWR SWRCB USBR
Wetlands and Riparian zones	• Clean Water Act	• 404/401 permits	RWQCBs SF BCDC USACOE
Endangered Species	• Federal Endangered Species Act • California Endangered Species Act	• Incidental take permits	USFWS CDFG NMFS
Fisheries	• Magnusen Act • California Fish and Game Code		USFWS California DFG NMFS

Topic	Regulations and Legislation	Associated Permits	Lead Agencies
Land Use	• California Environmental Quality Act • Local general plans & zoning ordinances • Cal. Planning, Zoning & Development Law		California State Lands Commission SF BCDC
Transportation	• Federal Transportation Equity Act		VTA
Vector Control	• California Public Health Codes		Santa Clara County Vector Control District Alameda County Mosquito Abatement District
Pesticides	• Federal Insecticide, Fungicide, and Rodenticide Act • California Pesticide Contamination Prevention Act • Food Quality Protection Act	• Pesticide registration • Applicator certification	California DPR

Source: Chapter 6 - Regulatory Setting, July 2000 Draft, Santa Clara Basin Watershed Management Initiative

2.4 Contact Information

The following table presents relevant contact information for each agency identified in this Chapter.

Agency	Phone Number	Web Site	Role and Responsibility in the Coyote Watershed
San Francisco Bay Regional Water Quality Control Board	(510) 622-2300	www.swrcb.ca.gov/~rwqcb2/	Main focus is to encourage watershed planning efforts in order to comply with the Water Quality Control Plan (Basin Plan) for San Francisco Bay.
Bay Area Air Quality Management District	(415) 771-6000	www.baaqmd.gov	Most of the regulatory actions taken by the BAAQMD affect the watershed indirectly; such as air pollutants can mix with rain or fog and then enter the watershed as polluted runoff. BAAQMD may also require permits for burning vegetation and/or debris from flood protection facilities, depending on the circumstances.
San Francisco Bay Conservation and Development Commission	(415) 557-3686	ceres.ca.gov/bcdc/	Influences activities around the mouth of Coyote Creek, particularly regarding stream channel maintenance (which might include dredging) and wetland mitigation projects.
California Department of Fish and Game	(707) 944-5500	www.dfg.ca.gov	Has influence over the watershed regarding endangered or threatened species, streambed alteration agreements or MOUs for stream maintenance work or flood protection projects
California Department of Health Services	(916) 445-0498	www.dhs.cahwnet.gov/ps/ddwem	involved in activities regarding the recharge of groundwater into a potable water basin, and using recycled water for non-potable purposes, such as streamflow augmentation or groundwater recharge
California Integrated Waste Management Board	(916) 255-2296	www.ciwmb.ca.gov	Affects the Coyote Watershed indirectly by developing and promoting used oil and tire recycling (these products do not end up in the creeks), and regulates landfills and composting. Debris from flood protection and other projects may be subject to regulation in order to limit the amount of material going to landfills. CIWMB also has programs to use recycled materials in public playgrounds and parks that could be used in recreational facilities in the Coyote Watershed.

Agency	Phone Number	Web Site	Role and Responsibility in the Coyote Watershed
California Department of Pesticide Regulation	(916) 445-4300	www.cdpr.ca.gov	District uses some pesticides in streamside vegetation management, and therefore is regulated by the DPR
California Department of Water Resources	(916) 653-5791	www.dwr.water.ca.gov	Most of the DWR's activities in the Coyote Watershed are focused on water rights, providing funding, and possibly technical assistance
U.S. Fish and Wildlife Service (Pacific Region)	(503) 231-6828	pacific.fws.gov	Work on Coyote Creek and its tributaries that might affect sensitive fish and wildlife by damaging their habitat or harming individual species will require permits or consultations with the USFWS.
National Marine Fisheries Service (Southwest Regional Office)	(562) 980-4000	swr.ucsd.edu	Involved with any activities that may impact areas of Coyote Creek with steelhead or salmon, such as through an incidental take permit, Section 7 (ESA) consultation, or conservation and habitat restoration activities, such as FAHCE.
California State Office of Historic Preservation	(916) 445-8006	www.calhist.org	Areas of the watershed with historical significance, such as Alum Rock Park, may require approval and/or a permit from SOHP before construction activities.
City of San Jose	(408) 277-4000	www.ci.san-jose.ca.us	Controls land use and development in its jurisdiction along the creeks and streams, as well as controlling stormwater runoff through its Urban Runoff Management Plan (SCVRUPPP). San Jose has also been apart of FAHCE to help restore salmonid fisheries in Coyote Creek.
City of Milpitas	(408) 586-3000	www.ci.milpitas.ca.gov	Milpitas plans to work with San Jose to create a Coyote Creek linear park chain along Coyote Creek to provide for recreation and flood-control measures. Milpitas is also a member of SCVURPPP, and therefore must control urban runoff into streams and creeks.
Morgan Hill	(408) 779-7271	www.morgan-hill.ca.gov	Has designated most of the area around Coyote Creek as open space

Agency	Phone Number	Web Site	Role and Responsibility in the Coyote Watershed
Santa Clara County	See website for departments	claraweb.co.santa-clara.ca.us	Member of SCVURPPP, and is therefore committed to controlling urban runoff to streams and creeks, such as Coyote Creek. Santa Clara County also can be a source of open spaces and recreational opportunities and partnerships for the Coyote Creek watershed.
United States Bureau of Reclamation	See website for departments	www.usbr.gov	Owns and manages the Santa Clara conduit.
California Air Resources Board	(800) 363-7664	www.arb.ca.gov	Most of the regulatory actions taken by the ARB affect the watershed indirectly. Air pollutants can mix with rain or fog, and then enter the watershed as polluted runoff. Currently, ARB and the Bay Area Air Quality Management District are working together on an air deposition pilot project for the San Francisco Estuary Institute and BAPPG to address this problem
California Environmental Protection Agency	(916) 445-3846	www.calepa.ca.gov	Agency does not work directly within watershed, but oversees other agencies which do, including the State Water Resources Control Board, the California Air Resources Board, and the California Integrated Waste Management Board.
United States Environmental Protection Agency (Region 9)	(415) 947-8021	www.epa.gov/region09	Approves TMDL lists submitted by the RWQCB. Also, the USEPA enforces federal regulations, such as the Clean Water Act and the Safe Drinking Water Act. Part of these regulations includes working with the RWQCB regarding TMDLs (USEPA must approve lists) and NPDES permits. Must approve USACOE permits issued for in-stream work.
United States Army Corps of Engineers (San Francisco District)	(415) 977-8601	www.spn.usace.army.mil	It is the District's interpretation of applicable regulations that USACOE permits are required for sediment removal in tidal streams; bank protection in all streams; temporary construction fill and access in all streams; and minor activities consisting of in-kind repair of levees, culverts and similar structures in all streams, and cleaning of culverts and similar structures in tidal streams. Work in and along Coyote Creek and its tributaries would be subject to these permits. It is interpreted that the Corps does not regulate sediment removal in freshwater streams; channel or upland vegetation management; or any activities in canals.

Agency	Phone Number	Web Site	Role and Responsibility in the Coyote Watershed
Federal Emergency Management Agency (Region IX)	NA	www.fema.gov/reg-ix	Most of the flood protection projects in the Coyote Creek watershed are to protect the general public from these 100-year floods. Areas identified as being in the 1% flood plain are usually the candidate areas for flood protection projects, with areas of known flooding from past storm events getting priority
State Water Resources Control Board	(916) 341-5254	www.swrcb.ca.gov	Most of the regulatory actions, such as water quality permits, come from the Regional Water Quality Board, the SWRCB does provide funding for watershed projects, such as the State Revolving Fund.
Santa Clara County Vector Control District	(408) 299-2050	www.sccvector.org/	Provides mosquito abatement for the Coyote Watershed, monitoring and controlling mosquitoes as necessary.
Alameda County Mosquito Abatement District	(510) 783-7744	www.mosquitoes.org/	Assists the Santa Clara County Vector Control District with mosquito abatement, since mosquitoes are not tied to jurisdictional boundaries.
San Mateo County Mosquito Abatement District	(650) 344-8592	www.smcmad.org/	Assists the Santa Clara County Vector Control District with mosquito abatement, since mosquitoes are not tied to jurisdictional boundaries.
Guadalupe-Coyote Resource Conservation District	(408) 288-5888	home.pacbell.net/gcrcd/	Involved with FAHCE on Coyote Creek. Also, GCRCD is providing input to the District on Lower Silver Creek Project regarding restoration of the creek to its natural state.
Local Agency Formation Commission (Santa Clara County)	(408) 299-2011	www.santaclara.lafco.ca.gov/	Would affect the District if the District wanted to add or remove land from its jurisdiction, change its sphere of influence, or if it wanted to enter into a contract with private individuals or organizations to provide services outside the District's jurisdiction. This could include providing flood control or providing habitat restoration assistance to areas outside the District's jurisdiction, or annexing open space areas to the District's jurisdiction.
Santa Clara County Open Space Authority			Potential partner to the Santa Clara Valley Water District regarding obtaining and/or managing areas of open space

2.5 References

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17. Watershed Management Initiative, Watershed Characteristics Report, Volume One, Chapter 6 - Regulatory Setting Regulatory Analysis for the San Francisco Estuary (SFEP 1992).
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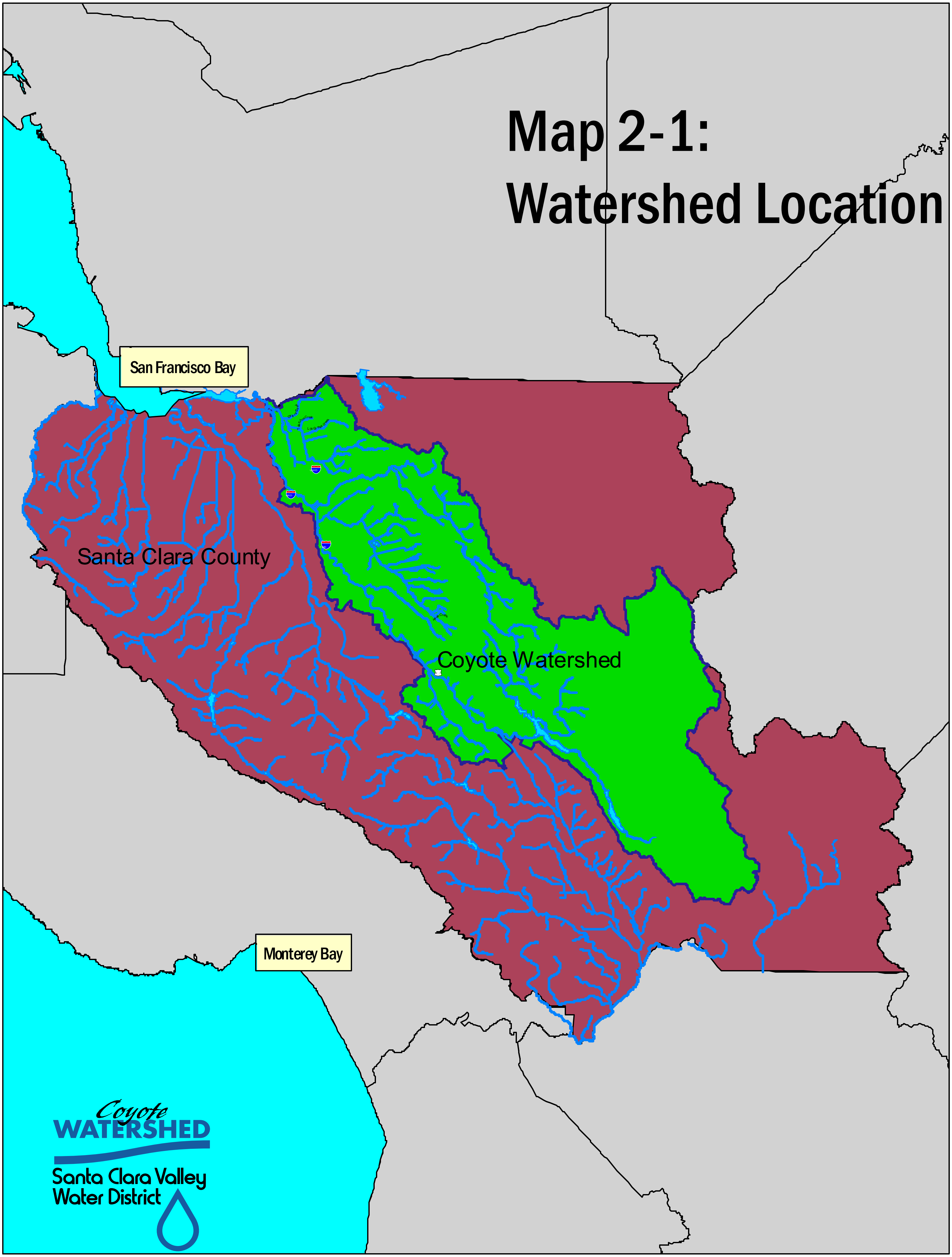
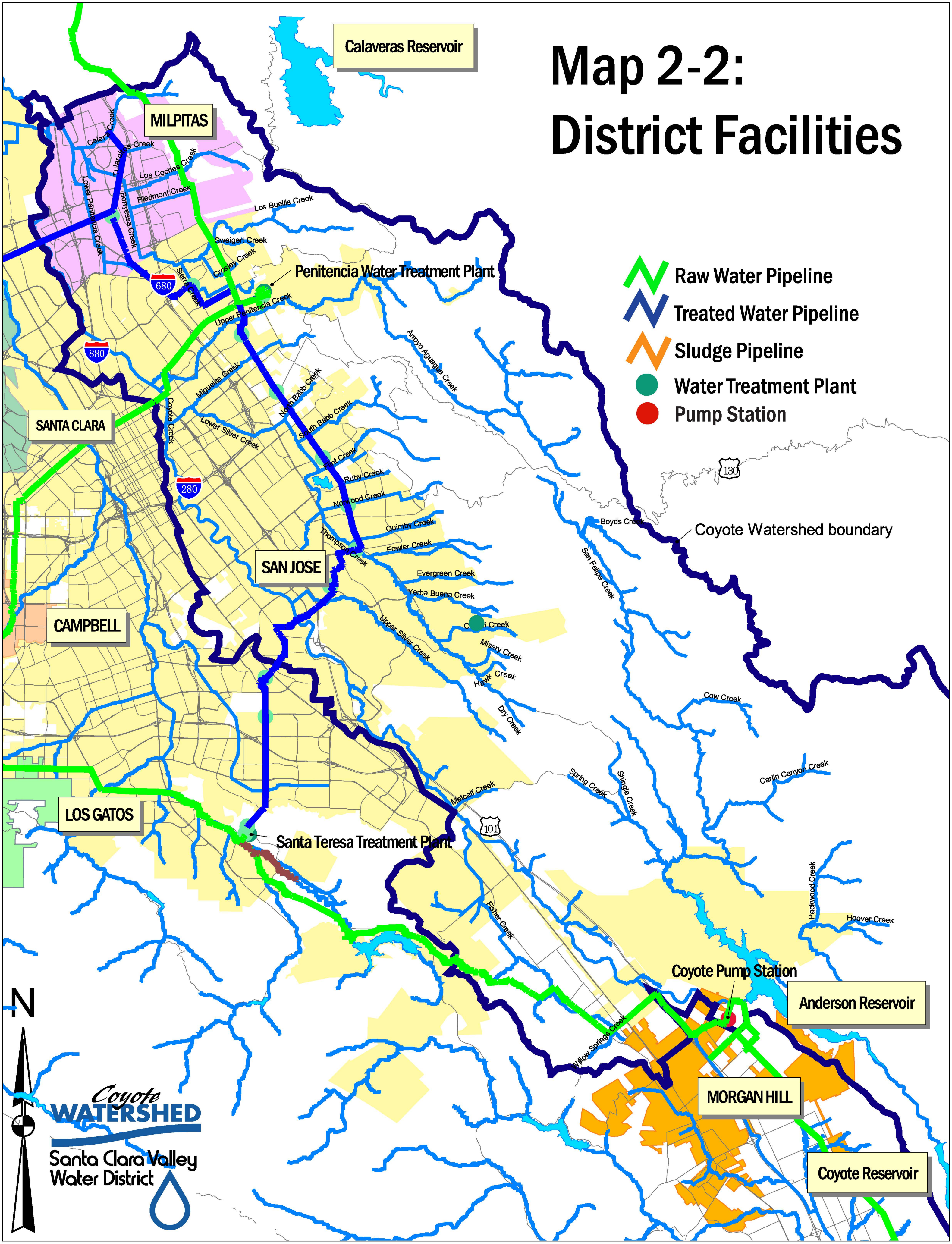
Map 2-1: Watershed Location



Map 2-2: District Facilities



Chapter 3 Watershed Physical Conditions

This chapter summarizes the physical conditions of the Coyote Watershed. It is divided into nine sections. These are:

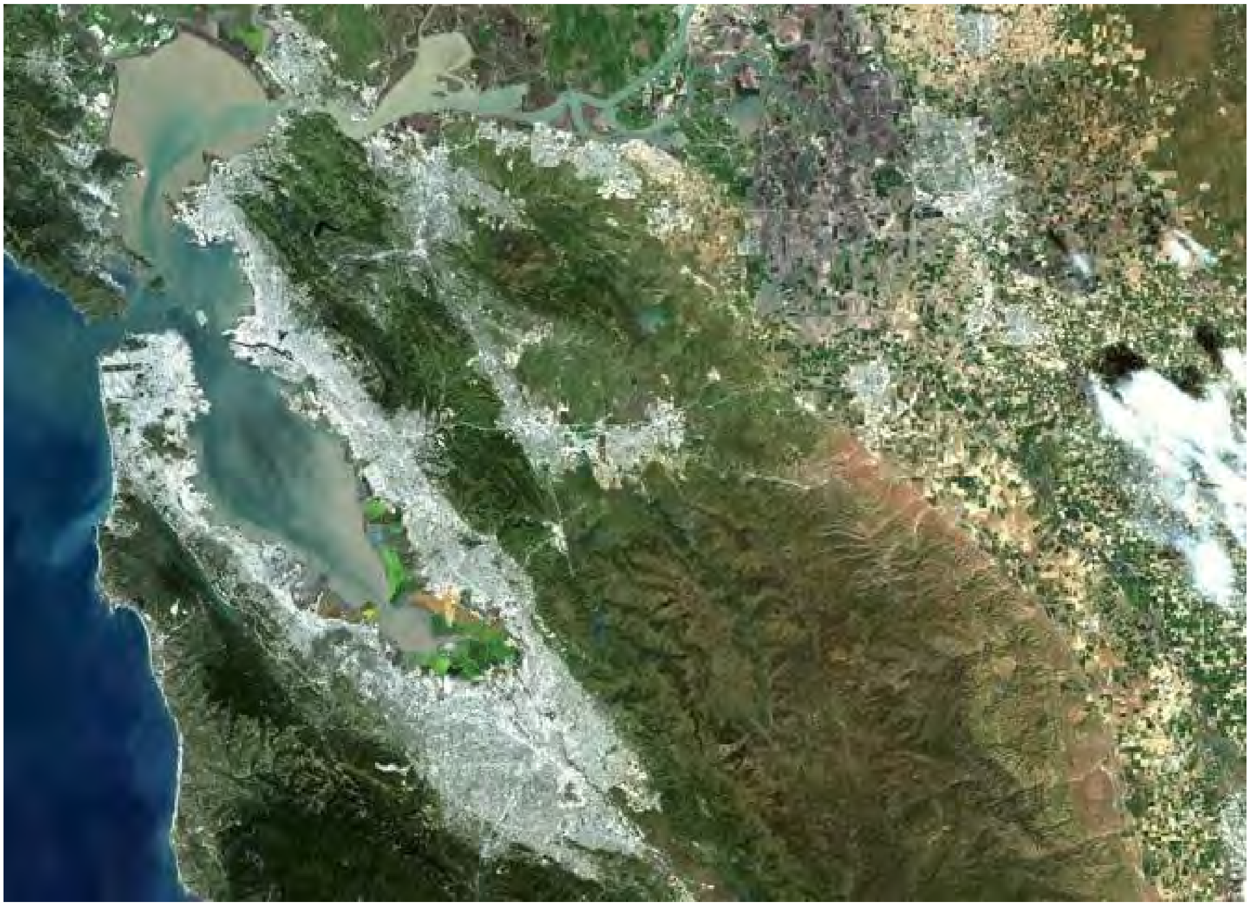
- Topography and Geology
- Groundwater
- Land Use
- Transportation
- Hydrology/Hydraulics
- Sediment and Erosion Control
- Easements/Right of Way
- Cultural/Demographic Data
- Identification of Informational Gaps

Descriptions of the watershed environmental and recreational conditions are located in Chapter 4.

Appendix A contains additional detailed information on each of the 29 major tributaries to Coyote Creek in the Coyote Watershed. The individual characterization sheet contains general information about the creek area, land use, 1% floodplain locations, land use, drop structures, fish ladders, vegetation, conveyance, necessary projects to implement the Ends Policy or linkages to existing or planned Coyote Watershed projects.

The Coyote Watershed is the largest watershed in the Santa Clara Basin, encompassing an area of over 320 square miles. The entire city of Milpitas and portions of San Jose and Morgan Hill lie within its boundaries, as shown in Map 3-1, with the remaining area comprising unincorporated lands within Santa Clara County. Of this area, 21% (43,008 acres) is located within the City of San Jose Urban Service Area (USA), and 6% (12,288 acres) in the City of Milpitas USA, and the rest (73%) is located in unincorporated areas of Santa Clara County. The eastern and southern portions of the watershed are upland areas with elevations ranging up to 4,000 ft. These areas include the western face of the Diablo Range, a part of the Coast Ranges stretching along the Pacific Coastline. Figure 3-1 contains an aerial photo of the Coyote Watershed and the San Francisco Bay.

FIGURE 3-1: AERIAL PHOTOGRAPH OF THE SAN FRANCISCO BAY AREA



Source: Landsat 7 Project, NASA, http://antwrp.gsfc.nasa.gov/apod/ap990514.html

The northern and western portions of the Coyote Watershed comprise the valley floor area. This area slopes from south to north and east to west, draining to San Francisco Bay via Coyote Creek, which is the major creek draining the watershed. Coyote Creek traverses the western edge of the watershed, and 29 major tributaries drain into Coyote Creek, including Upper Penitencia Creek, Berryessa Creek, Lower Silver Creek, and Fisher Creek.

The valley floor is heavily developed, while the upland areas outside of the USA are sparsely populated. Most of the population is also concentrated in the northern and eastern portions of the watershed, which tends to be closer to existing jobs, homes and transportation. This area also contains most of the creek corridor modifications.

The major roads and arterials within the Coyote Watershed are Highways 101, 237, 85 and 130, and Interstates 680, 880 and 280. These roads criss-cross the urban areas of the Coyote

Watershed, but do not cross the Diablo Range on the eastern watershed border. Only minor roads leading to Alum Rock or Ed Levin Park lead to these upland areas.

Flooding events have frequently occurred within the watershed. Recent flooding events include large portions of San Jose and Milpitas in 1997, and at the Berryessa/Calera Creek confluence in 1998. Portions of the watershed are currently within the 1% floodplain, which tend to be concentrated on Berryessa, Upper Penitencia, Lower Silver and Coyote Creeks, sites of historic flood events. Twenty percent of the Coyote Watershed is located within the FEMA 1% floodplain, and residents living in this floodplain are required by federal law to carry flood insurance on their dwelling. A mapping of the complete 1% floodplain is contained within Map 3-2.

3.1 Topography and Geology

The Diablo range contains the headwaters of Coyote Creek, which is situated in rugged terrain at an elevation of approximately 3,000 feet above sea level. Coyote Creek flows north along the western edge of the watershed and discharges 42 lineal miles downstream into South San Francisco Bay.

Higher elevations of the Coyote Watershed are typically located in the eastern and southern portions of the watershed above Anderson reservoir, while lower elevations are typically located near the Coyote Creek confluence with San Francisco Bay. Changes in elevation within the valley tend to be gradual, with significant elevation changes at the base of the Diablo Range. Outside of the USA, development is regulated in areas where the slope is greater than 15%.

Soils in the Coyote Watershed range from clays at the lower elevations to loam and gravelly loam at mid-elevations. The Natural Resources Conservation Service formally identifies over 20 different soil classifications within the Santa Clara Valley. Typical soils in Northern San Jose, Milpitas and along the bulk of the valley floor are a combination of clays and loams, underlain by unconsolidated sediments, which are mostly alluvial in origin.

Most of the Coyote Creek subbasin consists of alluvial (river deposited) material, such as sand, gravel, silt, and clay deposits. The northeastern half of the headwaters consists of Franciscan Formation, an ancient volcanic seafloor deposit consisting of serpentine. Serpentine, a green mineral found throughout California, is high in magnesium, and can dissolve into water in contact with it. During low-flow periods of the year, Coyote Creek can be high in magnesium because groundwater is providing most of the streamflow. During storms or times of high runoff, the creek contains more calcium than magnesium.

Three mineral springs are also located within the Coyote Watershed. These are the Gilroy Hot Springs, Madrone Springs and Coe Springs. Each of these three springs occurs along the Madrone Springs Fault.

The Hayward and Calaveras faults are major potentially active earthquake faults that cross the Coyote Watershed. Other potentially active faults are the Berryessa, Crosley, Clayton, Quimby, Shannon, Evergreen and Silver Creek Faults. These faults typically travel north-south through the watershed. The last major quake that heavily impacted the Coyote Watershed occurred during 1989 when the Loma Prieta Earthquake, centered in the Santa Cruz Mountains.

There are two minor mining prospects in the watershed. The Pine Ridge Mine, located atop of Pine Ridge near the entrance of Henry Coe State Park is a manganese mine. The Masson Ranch, a copper mine, is found in the Huntington Hollow tributary of Coyote Creek. Both of these mines are considered minor and should not affect the watershed. There are also no commercial rock or gravel quarrying operations in the watershed at this time (WMI, 2000).

The Regional Water Quality Control Board (RWQCB) identifies one abandoned mercury mine in the Coyote Creek watershed. This is the Silver Creek mine, located along Upper Silver Creek (California RWQCB, 1995). Little information is available on this mercury mine or its impact on water quality, and it is identified as a data gap.

3.2 Groundwater

The groundwater system in the Santa Clara Valley is divided into two interconnected subbasins. The northern subbasin is the Santa Clara subbasin. This subbasin is the primary source of groundwater for the Santa Clara Valley. The Coyote subbasin underlies the southern part of the valley, south of the Coyote Narrows (WMI, 2000). The Coyote Narrows is located where the Diablo Range and the Santa Cruz Mountains converge and constrict groundwater flow to the Santa Clara subbasin (Department of Water Resources, 1975).

The groundwater basins are composed of gravels, sands, and silty sands that have washed down from the mountains into the valley. Because the valley floor consists of relatively large diameter soils, it is very permeable and forms good aquifers, or water-bearing layers of sand and gravel. The aquifers in the basin are capable of storing large amounts of groundwater for wells. The water quality of the aquifers is good to excellent, and therefore is suitable for most uses, including drinking water (WMI, 2000).

The Santa Clara subbasin is divided vertically into two major aquifers separated by an aquiclude, or thick layer of impermeable clay. This layer of clay prevents groundwater movement between the two aquifers, and is found at a depth of approximately 150 feet throughout the subbasin. The aquifer on top of the aquiclude is considered to be unconfined, whereas the aquifer beneath the aquiclude is a confined aquifer. The unconfined aquifer is currently not used for water supply, but could be used under emergency conditions (WMI 2000).

The Coyote Valley subbasin contains the same type of alluvial material as the Santa Clara subbasin. Most of the water-bearing alluvial deposits in the valley came from Coyote Creek as it entered the valley from the Diablo Range. Groundwater occurs in these deposits as an unconfined aquifer, at a depth of 10 to 40 feet. Just upstream of Coyote Narrows, the groundwater discharges into Coyote Creek because of the groundwater rising over the constriction there.

The Santa Clara Valley drainage basin is a structural trough, bounded by the Santa Cruz Mountains to the southwest, and the Diablo Range to the northeast. The surface elevation of the southern end of the valley is about 350 feet above sea level. Because of this, groundwater flows into the aquifer from the mountain ranges and towards the San Francisco Bay (USGS, 2001). In the low foothills at the edge of the Santa Clara subbasin, the aquifer material is exposed at the ground surface. These areas are collectively known as the “forebay” of the aquifer. These exposed areas allow for water such as rainfall or streamflow to infiltrate into the aquifer (WMI, 2000). Water also enters the aquifer at the valley margins as a result of infiltration from small mountain streams, and by percolation of runoff or rainfall. The Hayward Fault in the Diablo Range bounds the groundwater and prevents it from migrating to the east (USGS, 2001).

In 1915, the hydraulic head (water surface elevation) of the groundwater was above the land surface elevation throughout much of the valley. This resulted in free flowing water and artesian wells. However, by 1967, the increase in groundwater withdrawals and drought conditions caused the water levels to drop 200 feet from their 1915 levels in some parts of the valley. Because the water table was drawn to below sea level, seawater was drawn into the aquifer system. This saltwater intrusion was detected in wells up to 10 miles inland (USGS, 2001).

Lands near the Bay sank to below sea level, causing tidal flooding. Additionally, seawater ran up into the mouths of the rivers and affected riparian habitat. Land subsidence altered stream gradients, streamflow capacity, and required levees to be constructed to prevent flooding. Additionally, the drop in the water table caused land subsidence in large portions of the Santa Clara Valley, which is underlain by large amounts of clay. This clay readily compacts when water is removed from it, so groundwater pumping caused the valley floor to sink by eight feet or more in some places. This has contributed to flooding in coastal areas and damage to roads, bridges, railroads, and sewer systems. Reduced groundwater withdrawals due to increased surface water importation and groundwater recharge operations have allowed the hydraulic head to stabilize. This compression of the clay layer is irreversible except on a geologic timescale..

The District actively promotes aquifer recharge through its percolation ponds (WMI, 2000) in order to minimize future subsidence and saltwater intrusion. Located within the Coyote Watershed are three major groundwater recharge areas on Upper Penitencia Creek and Coyote Creek. These are ponds of water that are held over sandy gravel beds naturally occurring in the watershed (WMI, 2000). The four main groundwater recharge areas are the Penitencia, Overfelt, Ford Road, and Coyote ponds. The Penitencia percolation ponds receive water from Upper Penitencia Creek and the South Bay Aqueduct. Overfelt ponds are also near the lower reaches of Penitencia creek. The Ford Road and Coyote ponds receive water from Coyote Creek, Anderson Reservoir, and the San Felipe Project (San Felipe Division of the Federal Central Valley Project). In addition, between Anderson Reservoir and the Coyote Narrows, flows into Coyote Creek are an in-stream source of recharge to the Coyote Creek groundwater basin. There are several areas that have been identified as areas that will provide good groundwater recharge within the valley floor area of the watershed, as shown in Map 3-3.

3.3 Land Use

The purpose of this section is to briefly summarize the type and location of existing and future land uses in the Coyote Watershed.

The location and type of land use can have profound impacts on stream corridors. Increasing density and encroaching development can limit the natural meandering of a stream, which impacts riparian, aquatic and wildlife habitats. It can also result in changing the diversity and abundance of species.

3.3.1 Existing Land Uses

The Cities of San Jose and Milpitas have a predominantly urban characteristic within the valley floor, surrounded by undeveloped land in the surrounding upland areas. These upland areas are devoted to uses ranging from rangelands to wildlife habitat, and are largely located outside of the cities' USA boundaries. These boundaries, as shown in Map 2-1, are intended to limit the extent of urban sprawl and limit the impact of new development on existing city services while preserving natural resources. Map 3-4 summarizes the existing land uses within the Coyote Watershed by zoning designation.

Existing land uses along Coyote Creek vary considerably along the length of the creek. Between the San Francisco Bay and Highway 237, the creek typically flows through open space, including areas operated and maintained by the Browning-Ferris Landfill and the San Jose/Santa Clara Water Pollution Control Plant sludge drying beds. The area bordering the east bank is currently open space, but this area is currently being developed into commercial buildings. A new road and two bridges were also constructed over Coyote Creek to connect this new development to Dixon Landing Road.

Between Highway 237 and Old Oakland Road, land use along the creek is dominated by commercial and industrial developments. Coyote Creek was recently modified by the USACOE, with the District as a local sponsor, to protect adjacent lands from the 1% flood. A project is underway to provide flood protection between Montague Expressway and Interstate 680 upstream of Montague Expressway.

Beginning at Old Oakland Road, and continuing to the Coyote Valley area, there are a number of parks and trails immediately adjacent to the creek. Areas of open space include one existing golf course, five major parks, and the Coyote Creek Park Chain. The park chain between William Street and the edge of San Jose's Urban Service Area largely encloses the creek. The bulk of this park chain is publicly owned, and portions have public trails for recreational usage by the general public. The park chain varies in width from approximately 300 to 2,000 feet, and is typically adjacent to medium density residential or commercial developments. Both Santa Clara County and the City of San Jose own portions of this chain, and it is desired by various agencies to connect the entire Coyote Creek Park chain between central San Jose and the Coyote Valley with a continuous park chain and trails.

3.3.2 Future Land Use

The Coyote Watershed is approaching full buildout in the downstream areas of the watershed, and there is minimal open space remaining within the urban service areas of San Jose and Milpitas USA. Areas where new development is proposed include the Evergreen Specific Plan (ESP) area, Edenvale, and Coyote Valley, as well as one golf course adjacent to Coyote Creek. Most other development in the watershed is being accommodated through urban infill activities. Table 3-1 summarizes the amount of open space remaining in the Coyote Watershed.

TABLE 3-1: INVENTORY OF VACANT LANDS IN SAN JOSE AND MILPITAS

Type of Use	San Jose (acres)	Milpitas (acres)	Total (acres)
Non-Urban	1,033	3,853	4,886
Single Family	5,340	84	5,424
Multi-Family	1,105	50	1,155
Commercial	544	130	674
Industrial	4,501	536	5,037
Public/Quasi Public	894	13	907
Public Park & Open Space	1,508	83	1,591

Type of Use	San Jose (acres)	Milpitas (acres)	Total (acres)
Other	275	92	367
Total	**15,200**	**4,841**	**20,041**

Reference: San Jose 2020 General plan, City of Milpitas General Plan

The bulk of the existing open space within the USA of the Coyote Watershed is concentrated within four areas: Coyote Valley, Western Milpitas, Evergreen and Edenvale. These open space areas tend to correlate with major proposed development regions, because these are the only large areas remaining to develop available within the valley floor of the Coyote Watershed. Development in these areas is already well underway.

Large-scale development of the type occurring in these areas would not be able to occur in other areas of the Coyote Watershed without modifying the definition of the existing greenline boundary. As a result, any proposed new development controls would likely have the greatest chance for successful implementation in these areas. Map 3-5 highlights the areas that are currently zoned as planned development areas within the Coyote Watershed, as well as highlighting the major development areas summarized above.

The November 7, 2000 passage of Proposition K in the City of San Jose fixes the current greenline designation in that City and prevents modification of the greenline boundary without the approval of the voters in a public election. Proposition K requires modification of the general plan to occur within normal review cycles, which are typically every eight years. The next San Jose General Plan update is likely to be prepared by 2005.

3.4 Transportation

Coyote Watershed has several major highways within its boundary. These include Highway 82, Highway 85, US 101, I-680, and I-280. Other major arterials include Montague Expressway, Capitol Expressway, King Road and Santa Teresa Boulevard. Creeks in the Coyote Watershed have multiple crossings, and the size, height and type of crossing vary widely.

Highways, roads, and transportation crossings affect the watershed mainly through stormwater runoff. Impervious areas increase the amount of runoff, and can wash pollutants such as sediment, trash, and oils and other hydrocarbons from the asphalt and shoulders of the road. Stormwater management plans for highways often address litter control, reducing direct discharges, reducing runoff velocity, managing pesticide/herbicide use, elimination of curbs, maintaining catch basins, appropriate street cleaning, establishing and maintaining vegetation along the roadway, and infiltration and detention/retention practices. Transportation projects will most likely require NPDES permits for construction activities as well.

Crossings of creeks typically create bottlenecks that fix the invert elevations of creek bottoms, and can limit the amount of available freeboard. These crossings can result in large head losses, increase the size of the required flood protection project and limit the ability of the creek to meander. Frequently, culverts under creek crossings result in either channel widening or construction of flood walls upstream to prevent flooding. Crossings also can limit creekside trails or require them to migrate offstream.

The District, when developing design criteria for a flood protection project design, will prepare HEC-RAS models of the project site. These typically incorporate all of the creek features, and identify 1% flood flow elevations, freeboard requirements and the minimum elevation of creek crossings. When others plan a creek crossing, a permit from the District is required for this construction activity. In order to adequately plan for a future flood protection project, if required, the District must place conditions on that crossing which will not require them from retrofitting the bridge to convey the 1% flood flow.

A number of new or upgraded creek crossings are currently planned in Table 3-2. Map 3-6 shows a map of these proposed transportation projects that cross District-maintained streams.

TABLE 3-2: SUMMARY OF COYOTE WATERSHED TRANSPORTATION IMPROVEMENTS

Location	Timetable	Creeks Impacted
Road Widening		
Berryessa between Mabury and Jackson	2003 – Begin construction	Coyote at Berryessa Ave Parallel to Upper Pen - Coyote to Lundy Ave
King Road between Penitencia and McKee	2001 – Begin construction	Upper Penitencia at King Rd Miguelita at King Rd
Old Oakland Road between Montague and Hedding	2000 – Begin construction	Coyote at Old Oakland Rd
Story Road between Senter and McLaughlin	2003 – Begin construction	Coyote at Story Rd
Tully Road between Monterey and Lucretia	2001 – Begin construction	Coyote at Tully Rd
Mass Transit		
Proposed BART extension along existing UPRR alignment	2000/01 – Obtain ROW 2004 – Begin VTA commuter service 2010? – BART groundbreaking	Coyote at Schallenberger Rd Lower Penitencia at Capitol Ave Lower Penitencia at Railroad Ct Berryessa at Abel St
VTA Tasman East/Capitol Light Rail extension	2004 – Phase I Construction complete Phase II construction dependent on funding	Coyote at Tasman Upper Penitencia at Capitol

Location	Timetable	Creeks Impacted
Road Widening		
Freeway Improvements		
Widen I-880 from Montague to 101 - 4 to 6 lanes	2001 – Begin construction	Coyote at I-880
Widen I-880 from Montague to Alameda County - 8 to 10 lanes	2002 – Begin construction	Lower Penitencia at I-880
Widen Hwy 101 from Bernal to Cochrane - 4 to 6 lanes	2002 – Begin construction	Coyote at I-101 Parkway Lakes
Widen Montague Expressway - I-680 to Hwy 101 - 6 to 8 lanes	Unknown	Coyote at Montague Lower Penitencia at Montague Wrigley at Montague Berryessa at Montague
Widen I-680 from Hwy 84 to Hwy 237; add HOV lane/ meters	2001-3 – Begin Construction	Calera at I-680
References: City of San Jose 5-year Capital Improvement Plan, http://www.ci.sj.ca.us. Metropolitan Transportation Commission 1998 Regional Transportation Plan for the San Francisco Bay Area, Amended May 1999. San Francisco Bay Area Rapid Transit District, Fiscal Year 2000 Short Range Transit Plan, July 1999 through June 2020. VTA, http://www.vta.org/highways/index.html		

The number and scheduling of these projects is largely based on a number of external factors, such as federal and state funding, and environmental requirements.

3.5 Hydrology

The Coyote Watershed encompasses over 300 square miles of eastern Santa Clara County. Coyote, Upper Penitencia, Lower Silver, Berryessa and Fisher Creeks are some of the larger creeks traversing the watershed, and all 29 creeks in the watershed are tributaries to Coyote Creek. Coyote Creek flows from Anderson Reservoir northwards to South San Francisco Bay. Major subwatersheds in the Coyote Watershed include the Berryessa and Upper Penitencia Watersheds in the northern portion of the Coyote Watershed, and the Lower Silver Creek Watershed in East San Jose.

Over 60 of Coyote Watershed's 300 square miles are located within the 1% flood plain (Santa Clara County General Plan, 1994). Map 3-2 shows the extent of the 1% floodplain. There have been seven major floods in the past 50 years. Coyote Creek is largely sustained by groundwater and flows year round in most areas. Other creeks in the Coyote Watershed are ephemeral during the drier, summer months. As a result, runoff from urban water uses becomes a much larger component of streamflows during the summer months.

The District operates and maintains a network of hydrologic measuring stations within Santa Clara County. This network is used for a variety of purposes, such as supporting the District's groundwater recharge program, hydrology, flood management, water treatment plant operations, environmental stewardship and emergency operations. This network currently includes 43 rainfall stations, 54 streamflow stations, 10 stream stage (level only) sensors and 11 reservoir stations. The District maintains a database of records collected at these current stations, as well as from past, now discontinued or relocated stations (SCVWD, 2001). Current rainfall, streamflow, and reservoir conditions can be found at http://alert.scvwd.dst.ca.us/.

The District can create hydrographs for those streams where hydrologic measuring stations are located. The locations where these stations are located in the Coyote Watershed are:

- Coyote Creek at:
    - Edenvale
    - Madrone
    - above Anderson Reservoir
    - Below Anderson Reservoir
    - Metcalf Road
    - Above Metcalf Chute
- Upper Penitencia at:
    - Dorel Drive
    - Piedmont Road
- Thompson Creek at Quimby Road
- Fisher Creek at Monterey Road

There is also a USGS station on Coyote Creek at Highway 237. Creating hydrographs for each creek has been identified as a data gap.

3.5.1 Rainfall

The Coyote Watershed has a Mediterranean climate, which is characterized by dry, hot summers and cooler, wet winters. On the average, 90% of the rainfall occurring in the Coyote Watershed occurs during the winter and early spring months, November through April. The northwestern part of the watershed, which includes parts of San Jose, receives less than 20 inches per year on average. Historically, San Jose has averaged 14 to 15 inches of annual rainfall, with the bulk of the rainfall occurring during the winter months. Historical annual and monthly average data are presented in Table 3-3.

TABLE 3-3: SUMMARY OF HISTORICAL RAINFALL FOR SAN JOSE – 1988-1999

Year	Annual Precipitation (in)
1988	6.88
1989	6.34
1990	9.05
1991	13.36
1992	16.32
1993	17.16
1994	10.12
1995	20.17
1996	20.00
1997	16.03
1998	22.54
1999	10.38

Month	Average Monthly Precipitation (in)
January	3.01
February	3.05
March	2.39
April	0.62
May	0.68
June	0.16
July	0.02
August	0.05
September	0.08
October	0.46
November	1.31
December	2.17
Yearly Totals	**14.01**

Reference: California Irrigation Management Information Service, State of California

The historical rainfall amounts for San Jose are typical for the rainfall pattern seen throughout the Coyote Watershed. The southeastern tip of the watershed also receives less than 20 inches of rain a year. The eastern half and the southwestern tip of the watershed receive an average of 20 to 39 inches of rain per year.

3.5.2 Reach Segmentation

Segmentation approaches were standardized by the Report Preparation Team of the WMI (WMI, October 2000). The procedure was applied by WMI to segment, among other watersheds, Upper Penitencia Creek, which is the first of three subwatersheds in the Santa Clara Basin to be studied in the WMI Watershed Characteristics Report. The remaining segments of each creek will be segmented utilizing the criteria identified by the WMI, which are as follows.

Channel Type: While some of the stream channels in the upland areas are still natural, most of the tributaries within the valley floor area of the watershed have been partially reconstructed to optimize flood conveyance capacity. Many types of channels have been constructed to meet this purpose in the Coyote Watershed, including earthen levees, trapezoidal concrete, flood walls and culverts. Design and operation of the primary conveyance elements were historically focused on conveying 100-year storm flows and to accommodate new development adjacent to these stream corridors. More recent projects have incorporated a wider range of goals such as aquatic and riparian habitat restoration and public access, while still meeting the 100-year flood protection goal. Future projects will be designed to implement the District's Ends Policy, which requires multi-objective planning for recreation, environmental restoration and enhancements, water quality, and flood protection.

Map 3-7 presents the location of the various channel types throughout the Coyote Watershed. These channel types are currently being updated by the SCVWD. Existing channel types are classified into four different channels: earthen levee, concrete- or rock-lined, natural modified, and natural unmodified.

Earthen levee are engineered levees constructed of excavated earth. These levees can be covered with vegetation, tend to be relatively straight and have a low degree of sinuosity. The bank heights are fixed, though downcutting can occur.

Concrete or rock-lined channels are characterized by being encased in concrete or rock riprap on three sides. The channels are usually void of vegetation, and have no sinuosity. No erosion occurs in these channels as long as the streamflow remains in the channel. Bank heights are fixed, and there is no downcutting.

Natural modified channels are usually natural streams (pre-development) that have retaining walls, dams, gabions, or other engineered structures to control flooding or erosion. Vegetation cover is present and often flourishes in these channels. The channels can meander, usually between the structural controls, and can be subject to high amounts of erosion. Bank height can be fixed in places, but are often uncontrolled. Downcutting is common in these channels.

Natural unmodified channels are streams that have been left in their pre-development alignment, or have not been significantly engineered. They have significant vegetation cover along streambanks, and usually have a high degree of sinuosity, depending on the gradient and the type of material transported by the stream. In upper reaches of the stream, these channels can be sources of erosion materials, whereas lower reaches can be the sinks (WMI Segmentation Memo, 2000).

Flow Regime: Modern flow regime is broken into four different categories. These are perennial, ephemeral, reservoirs and tidal. Perennial streams flow year-round. Ephemeral streams only flow during the wet or rainy season. Streams that flow year-round only during excessively wet years are also considered ephemeral. Reservoirs are stream segments that are permanently flooded. Tidal stream segments are those areas that mix with San Francisco Bay salt water.

The District operates two reservoirs (Anderson and Coyote), in the Coyote Watershed that regulate flow into Coyote Creek. Another reservoir (Cherry Flat) assists in the regulation of Upper Penitencia Creek flows. Flows in other creeks are largely dependent on groundwater, springs or piped urban runoff. As a result, many of the creeks in the watershed flow intermittently. Map 3-8 shows which Coyote watershed creeks are perennial or ephemeral.

Impervious Area: The greater the amount of impervious area, the greater the amount of stormwater runoff. Impervious areas located either within or immediately adjacent to stream corridors facilitate stormwater-borne pollutant delivery to surface waters. Impervious areas were classified based on an average percent imperviousness of adjacent land uses, which closely correlates to land use or the amount of development.

The WMI segmentation characterization utilized three different generalized categories of imperviousness were used for land uses in areas within and immediately adjacent to the stream corridor as an indicator of development: less than 5% (undeveloped), 5 to 25% (lightly developed), and greater than 25% (fully developed).

- Segments designated as *less than 5% (undeveloped)* generally contain land uses with less than 5% impervious area. These reaches generally feature largely intact riparian vegetation and typically contain agricultural pasture, forest, rangeland, and recreational/open space land uses.
- Segments designated as *5 to 25% (lightly developed)* generally contain land uses with between 5 and 25% impervious area. These reaches also generally feature largely intact riparian vegetation and typically contain residential development at a density of one dwelling unit per two to five acres and urban park and recreation land uses.
- Segments designated as *greater than 25% (fully developed)* generally contain land uses with greater than 25% impervious area. These reaches generally exhibit vegetative cover in some places and impervious surfaces in others and typically contain residential development at a density of one or more dwelling unit per acre, commercial and industrial development, roads and other transportation facilities, and utility infrastructure land uses.

When developing candidate projects, activities or studies, attempts will be made to characterize creeks utilizing these segmentation criteria. Further review and refinement of the segmentation is expected to occur during Plan updates. In lieu of presenting the segments for all of the Coyote Watershed Creeks, the segmentation of Upper Penitencia Creek is presented in the following table, extracted from the RPT report (WMI, October 2000). Note that d/s refers to downstream, and u/s refers to upstream.

TABLE 3-4: STREAM SEGMENTATION OF UPPER PENITENCIA CREEK

		Stream Characteristic			
Reach Number	**Segmentation Limits (d/s to u/s)**	**Flow Regime**	**Channel Type(s)**	**Impervious Area (%)**	**Comments**
UP-1	Confluence with Coyote Creek to North Jackson Avenue Bridge	Perennial	Earthen levee	> 25	
UP-2	North Jackson Avenue to Alum Rock Park boundary	Perennial	Natural Modified	> 25	Some relatively unmodified channel sections exist in this reach, but extensive erosion control measures are in place
UP-3	Alum Rock Park boundary to confluence with Arroyo Aguague	Perennial	Natural Modified	5 to 25	
UP-4	Confluence with Arroyo Aguague to Cherry Flat Reservoir	Perennial	Natural Unmodified	< 5	Most of this reach is closed to public access
UP/CF	Cherry Flat Reservoir	Reservoir	Reservoir	< 5	Reservoir is owned and operated by the San Jose (Conventions, Arts, and Entertainment Dept.); surrounding land is leased for grazing and is closed to public
UP-5	Cherry Flat Reservoir to source	Perennial	Natural Unmodified	< 5	No known public access to this reach; this reach may be grouped with UP-6 for assessment due to common characteristics
UP-6	Arroyo Aguague	Perennial	Natural Unmodified	< 5	Lower portion of reach is within Alum Rock Park, upper portion closed to public access; reach may be grouped with UP-5 for assessment due to common characteristics

Reference: WMI Draft Technical Memorandum #18a - Proposed Stream Segmentation for the Watershed Assessment, October 2000

3.5.3 Streamflow Management

One of the design criteria used by the District is that creeks are to be engineered to convey the 1% flood, but at the present time, not all creeks are currently designed to convey this capacity. Table 3-4 shows the design 1% flow, and the current carrying capacity of each of the creeks at the discharge end of the creek. Parcels not residing in the FEMA mapped floodplain are not required to carry flood insurance, which can cost up to $1,000 per year. FEMA is responsible for declaring which areas are considered to be in the floodplain, and remapping studies are done periodically to redraw this line. As the remapping studies are completed, the maps contained in the Plan will be updated to incorporate the latest information.

The District is already in the process of designing projects to increase the conveyance capacity of Lower Silver, Berryessa, Upper Penitencia, Calera and Thompson Creeks. These are five of the top seven creeks in terms of difference between the existing and 1% flood capacity at the confluence of the creeks. Fisher, South Babb, Miguelita, Los Coches, Sierra, Flint, Yerba Buena and Quimby Creeks are the other creeks not currently engineered to convey the 1% flow.

TABLE 3-5: SUMMARY OF CREEK CARRYING CAPACITIES

	Creek Flow Capacity (cfs)		
Name	**Existing Capacity**	**1% Design**	**Difference**
Upper Penitencia	1100	4600	3500
Fisher	700	4000	3300
Berryessa	2350	4900	2550
Lower Silver	3300	5500	2200
Thompson	1900	3600	1700
South Babb	290	920	630
Calera	410	920	510
Miguelita	300	600	300
Los Coches	1115	1400	285
Sierra	435	550	115
Flint	440	520	80
Yerba Buena	480	530	50
Quimby	390	430	40
Coyote	15000	15000	0
Lower Penitencia	7000	7000	0
Arroyo Aguague	2570	2570	0
Upper Silver	950	950	0
Fowler	620	620	0
Piedmont	510	510	0
Evergreen	500	500	0
Tularcitos	450	450	0
Norwood	440	440	0

	Creek Flow Capacity (cfs)		
Name	**Existing Capacity**	**1% Design**	**Difference**
Willow Springs	410	410	0
Los Buellis	400	400	0
Cribari	320	320	0
North Babb	270	270	0
Ruby	260	260	0
Crosley	250	250	0
Cochran Channel	250	250	0
Penitencia East Channel	1080	340	-740

Source: Geohydro database, Santa Clara Valley Water District

3.6 Sediment and Erosion Control

The hydrology of local streams can be changed from increased stormwater runoff. As impervious surface areas become more common from development, the ground cannot percolate water. This causes not only more water to run directly into streams, but also creates peak stream flows faster because of shorter times of attenuation. Streams convey higher flows during wet weather more frequently than in predevelopment conditions, but in the summer, flows are lower since there is less water stored in the soil to be released back into the streams. During wet weather, repeated high flows can erode streambeds and banks, transporting sediments downstream to areas of quieter waters. These sediments are remobilized by later high flows, and deposited overbank in stream margins during flood events, often at rates exceeding those of undisturbed stream systems. Sediment accumulation in the stream also reduces its conveyance capacity and making the stream more prone to flooding. The sediment diminishes the ability of the streambank vegetation to filter suspended sediments from flood waters.

The accumulation of sediment and the erosion of streambanks has historically reduced the capacity of the channel and impacted spawning areas in the watershed. Maps 3-9 and 3-10 show the areas where the District has historically removed channel sediment and implemented streambank erosion control measures within the Coyote Watershed. Measures are being implemented on multiple creeks in the Coyote Watershed to reduce these problems (see Appendix A). The District's Stream Maintenance Program is currently undergoing environmental review to ensure sediment management techniques are protective of aquatic and riparian habitat (SCVWD, 2000). While the accumulation of channel sediment can typically occur in downstream or slower moving channel reaches, the sources of sediment can be upstream, such as from piped urban stormwater, channel erosion in steep upland channels, or surface erosion of non-vegetated, erosive soils. Sediment can also result from construction activities, large construction projects are required to prepare Stormwater Pollution Prevention Plans to minimize runoff.

Further discussion of the District's operations and maintenance activities is included in Chapter 6, "District Operations and Maintenance Activities."

3.7 Easements / Right-of-Way

Maintenance of right-of-way is critical to the District for facilitating the construction of flood control projects, maintenance of existing flood control structures, while allowing natural stream meandering to occur and preserving native habitats. Currently, right-of-way has been acquired, either via easement or deed, on a number of reaches within the Coyote Watershed. On some of the larger creeks, such as Coyote, the District maintains up to 600 feet of right-of-way. Typical reaches further upstream have intermittent areas of right-of-way. Development has channelized creek corridors, limiting access and the ability of the District to obtain easements or right-of-way.

Areas where additional easements or right-of-way may be required will be identified in Chapter 10.

3.8 Cultural / Demographics

The Coyote Watershed is comprised of portions of San Jose, Milpitas and a small portion of Morgan Hill. Though no specific information was available for the Coyote Watershed as a whole, available demographic and cultural information pertaining to the Coyote Watershed was summarized in this section.

3.8.1 Population

The State of California (Department of Finance, 2000) estimates the population of Santa Clara County to be 1,701,426 in 1998. Non-hispanic whites consist of 50% of the population, Hispanic 24%, Asian/Pacific Islander 22%. Black 4%, and Native American less than 1%, as shown in Table 3-6. Asian/Pacific Islander includes Chinese, Filipinos, Vietnamese, Japanese, and Asian Indians.

Based on the 1990 census, the City of San Jose had a similar ethnic make-up as the county, shown in Table 3-7, while Milpitas had a higher percentage of the Asian/Pacific Islander ethnicity.

San Jose's population is evenly split between male and female, with 50.7% for the former and 49.3% for the latter. Approximately 37.9% of the population is under 25 years old, whereas only 7.1% is 65 or over. The gender split for Milpitas is 53.2% male to 46.8% female. Approximately 36.9% of the population is under 25, whereas only 4.8% is 65 and over.

TABLE 3-6. POPULATION DEMOGRAPHICS FOR SANTA CLARA COUNTY

	San Jose			Milpitas		
Ethnicity	**Total**	**Non-Hispanic Origin**	**Hispanic Origin**	**Total**	**Non-Hispanic Origin**	**Hispanic Origin**
White	492,692	49.8%	13.2%	26,408	42.1%	10.0%
Black	36,397	4.5%	0.2%	2,946	5.7%	0.1%
Native American	5,323	0.5%	0.2%	587	0.9%	0.3%
Asian/Pacific Islander	152,926	19.0%	0.6%	17,513	33.5%	1.1%
Other Race	94,887	0.2%	12.0%	3,232	0.3%	6.1%
Total	782,225	73.9%	26.1%	50,686	82.4%	17.6%

Note: Each ethnicity was broken down into Hispanic and non-Hispanic categories in the San Jose and Milpitas. There are approximately 77,150 people of Hispanic origin in San Jose.

The main languages spoken in Santa Clara County are English, Spanish, Vietnamese, Tagalog, Cantonese, and Laotian. Other languages, listed in declining order of use, include Khmer, Punjabi, Korean, Russian, Mien, Mandarin, Farsi, Arabic, Hmong, and Armenian (WMI, 2000).

3.8.2 Cultural Resources

Main historical sites in San Jose include the Peralta Adobe, the Fallon House, and the History Park at Kelley Park. The Peralta Adobe has survived 200 years in downtown San Jose. Manuel Gonzales, who was an Apache Indian who had come on the DeAnza Expedition of 1775-76, built it in the late 1790s. Luis Maria Peralta acquired the Adobe when he was assigned the Comisionado (military deputy) of San Jose, and later as elector, treasurer and judge. Three flags flew over the Adobe during Peralta's lifetime: the Spanish flag, the Mexican flag, and the American flag. He died in 1851. The Adobe serves to illustrate daily life in San Jose during the Spanish and Mexican periods.

Alum Rock Park was founded in 1872, making it California's first and oldest municipal park. From 1890 to 1932, the park was nationally known as a health spa with 27 mineral springs. Alum Rock Park encompasses 720 acres, and includes Penitencia Creek, 13 miles of trails, a riding stable for trail rides, two children's playgrounds and a Visitor Center.

The Fallon House is across the street from the Peralta Adobe. The House is a fifteen room Victorian built by Thomas Fallon in 1855. He was the first person to raise the American flag over San Jose during the Mexican-American war. When built, the House was higher than City Hall and was considered a San Jose showplace. Thomas Fallon served as the mayor in San Jose from 1859 to 1860. The Fallon House is the oldest Italianate style residence in Santa Clara

County, predating others by eight to ten years. It also was one of the first houses in the area to have bay windows.

The History Park in Kelly Park contains historic buildings that were either relocated to or reconstructed at the park. The 14-acre park has 27 original and replica houses, businesses, and landmarks that attempt to recreate the look of historic Santa Clara valley. Some of the buildings include the Ng Shing Gung Chinese temple, the Coyote Post Office, and the Stevens Ranch Fruit Barn.

The City of Milpitas sits on land that was once part of the Tamyen tribelet of Costanoan (Ohlone) Indian homelands. The Tamyen maintained year round village sites, but did occasionally visit temporary camps during different times of the year for hunting and gathering food. The presence of cinnabar in the territory created a high amount of trade for the Tamyen, and parties from as far as the Columbia River came to obtain it. Wooden bows, salt, and pine nuts were traded with the Tamyen for cinnabar from the Coyote Creek and Guadalupe River Watersheds.

There are two Costanoan village sites within the city limits of Milpitas. One is a shellmound that is near present-day Elmwood Rehabilitation Center. It was discovered in 1949, and the mound dates backs to the eighteenth century. The other site is the Alviso Adobe, near the corner of Calaveras and Piedmont. It is at least 3,000 years old, making it one of the few archaeological sites in California that has historically been continuously occupied.

Europeans first passed through Milpitas in 1769. By the 1840s, the Higuera Adobe was a stopover for travelers on their way to Sutter’s Fort or San Jose. By the 1850s, a stagecoach ran between San Jose and Oakland, stopping at the Higuera Adobe.

The first structures built in Milpitas were adobe houses located east of town in the foothills. Woodframe farmhouses followed in the 1850s to 1870s. Businesses that catered to travelers developed around the Alviso-Milpitas Road and the San Jose-Oakland Road intersection. Cultural resource and historic sites listed for preservation include the:

- Milpitas Grammer School/Senior Center;
- DeVries/Smith home;
- Campbell’s Corners;
- Caudillo House;
- Weller/Curtner Estate;
- Laguna School;
- Higuera Adobe; and
- Alviso Adobe.

The City of Milpitas has also designated a portion of Main Street near Calaveras Boulevard as a Historic Commercial District (City of Milpitas, 1995).

3.9 Identification of Data Gaps

Portions of this chapter could not be completed due to the current unavailability of information. As this information becomes available, it will be reviewed and incorporated into the Plan. A partial list of data gaps follows in Table 3-9.

TABLE 3-9: SUMMARY OF CHAPTER 3 DATA GAPS

Section	Identified Data Gaps
Topography	Missing detailed contours for NE corner of Coyote Watershed (DEMS potentially available from USGS)
Geology	Need more information on Silver Creek mercury mine
Land Use	None identified
Transportation	None identified
Hydrology	• Reach segmentation for all Coyote Watershed Creeks except Upper Penitencia Creek and Coyote Creek • Update of channel types in District Geohydro database • Proposed FAHCE streamflow management strategies for Coyote and Upper Penitencia Creek • Hydrographs for appropriate stream reaches
Sediment and Erosion Control	Results of 10-year SMP permit process – to be updated and incorporated into Plan
Water Supply	None identified
Easements and Right-of-Way	None identified
Cultural/ Demographics	None identified

3.10 References

1. California Regional Water Quality Control Board, San Francisco Bay Region, San Francisco Bay Basin Water Quality Control Plan, Oakland, California, 1995.
2. City of Milpitas, General Plan, 1995.
3. City of San Jose, 5-Year Transportation Capital Improvement Plan, http://www.ci.sj.ca.us.
4. City of San Jose, San Jose 2020 General Plan, 1996.
5. Metropolitan Transportation Commission, 1998 Regional Transportation Plan for the San Francisco Bay Area, Amended May 1999.
6. NASA, Landsat 7 Project, http://antwrp.gsfc.nasa.gov/apod/ap990514.html.
7. San Francisco Bay Area Rapid Transit District, Fiscal Year 2000 Short Range Transit Plan, July 1999 through June 2020.
8. Santa Clara County, General Plan, 1994.
9. Santa Clara County, Registrar of Voters office, List of Measures, 2000.
10. Santa Clara Valley Water District, 2000 Water Supply Operations Memorandum.
11. Santa Clara Valley Water District, Areas of Managed Streamflows, 2000.
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14. Santa Clara Valley Water District, Stream Maintenance Program, 2000.
15. Santa Clara Valley Water District, Hydrologic Data, accessed online at <http://www.scvwd.dst.ca.us/wtrsuply/hydrdata.htm>, 2001
16. State of California, California Irrigation Management Information Service, http://wwwdpla.water.ca.gov/cgi-bin/cimis/cimis/data/input_form.
17. State of California, Department of Finance, *City/County Population Estimates, with Annual Percent Change, January 1, 1999 and 2000.* Sacramento, California, May 2000.
18. State of California, Department of Finance, Race/Ethnic Population Estimates: Components of Change for California Counties, April 1990 to July 1998, Sacramento, California, May 2000.
19. State of California, Department of Water Resources, *Evaluation of Groundwater Resources: South San Francisco Bay Volume III: Northern Santa Clara County Area*, Bulletin No. 118-1, 1975.

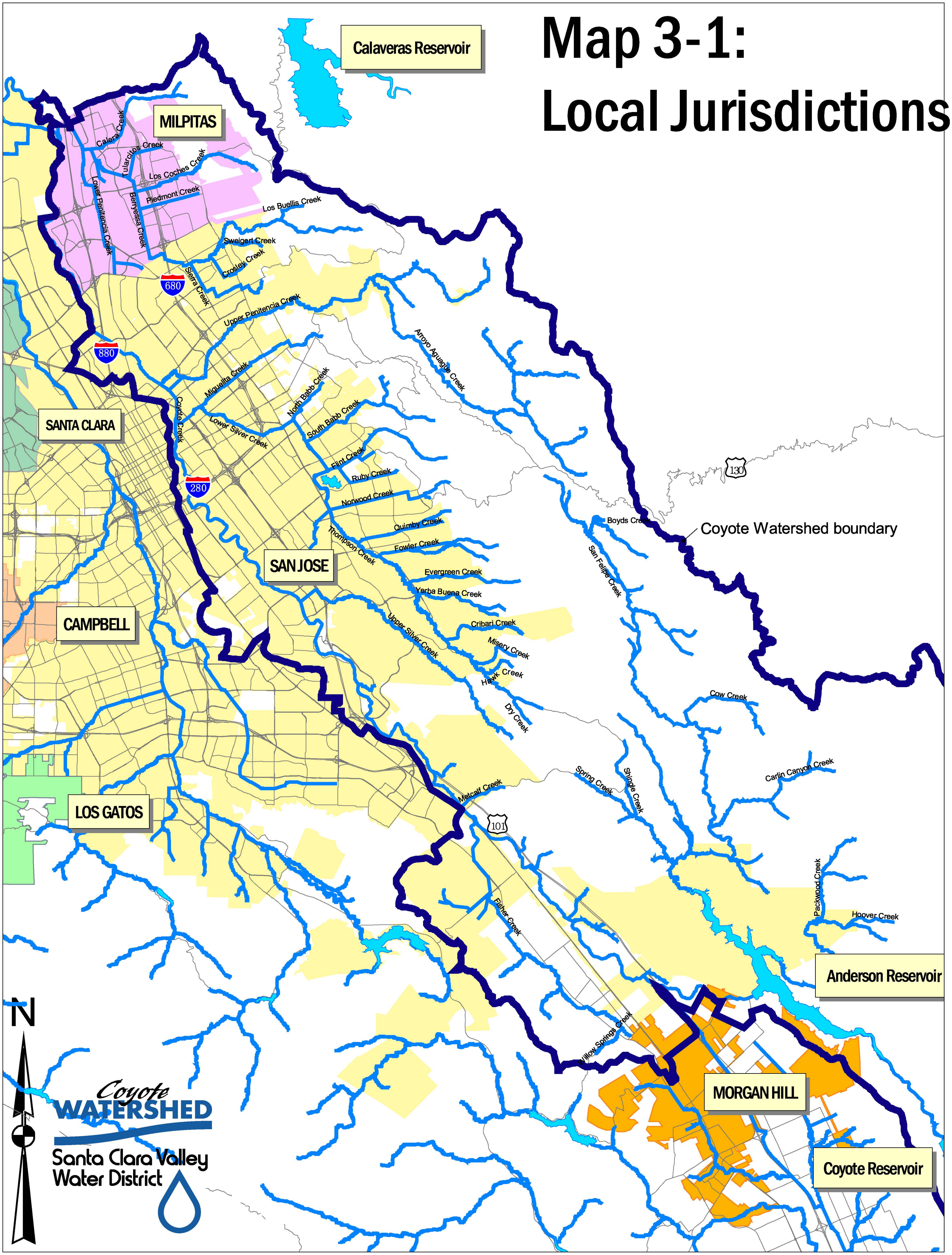
20. Watershed Management Initiative, Draft Technical Memorandum #18a - Proposed Stream Segmentation for the Watershed Assessment, October 2000.

21. Watershed Management Initiative, Land Use Subgroup, Overview of “Consensus Points” and Action Items, updated April 2000.

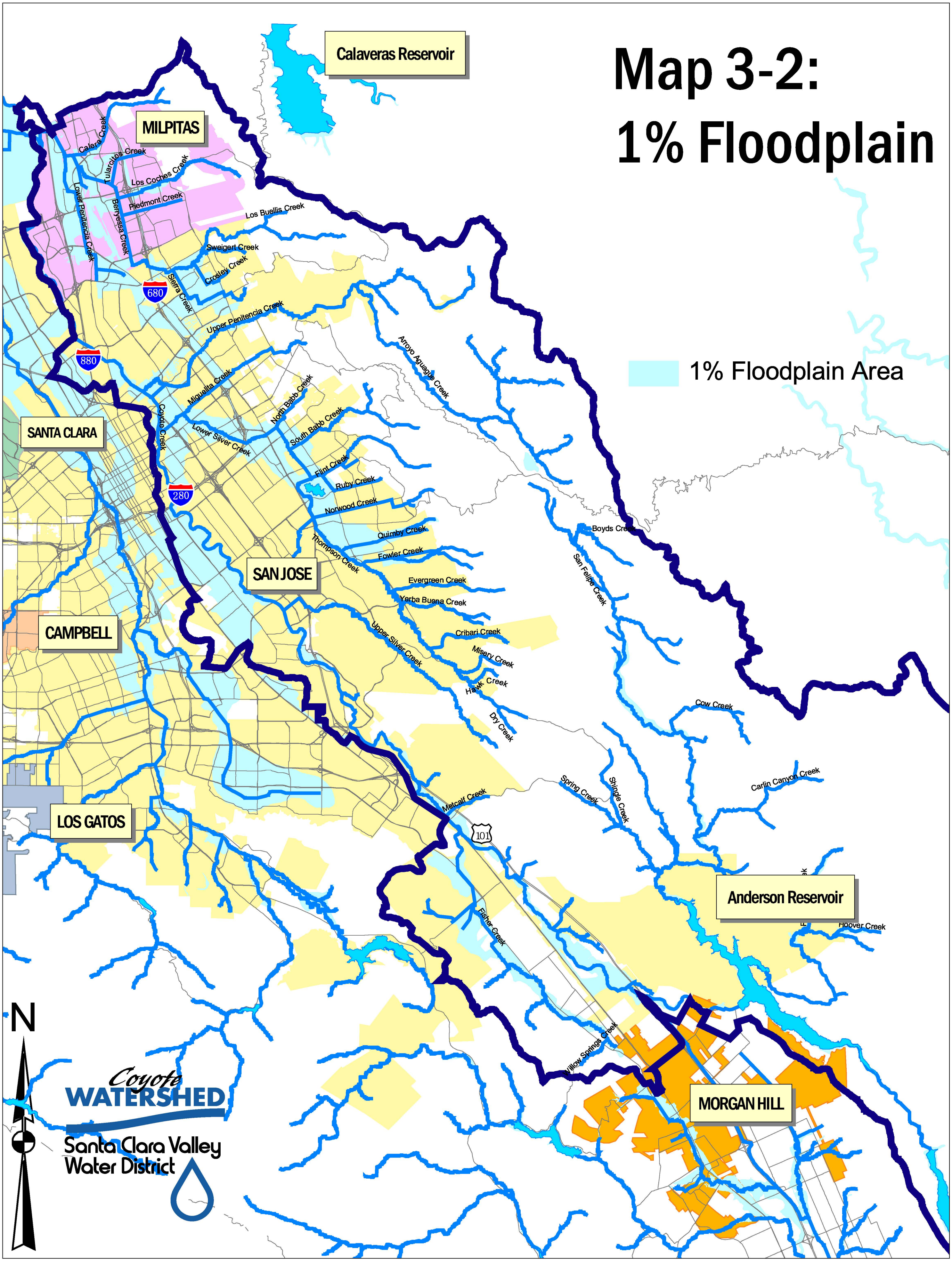
22. Watershed Management Initiative, Watershed Characteristics Report – Watershed Management Plan, Volume 1, Unabridged – Draft, 2000.

23. USGS, Ground Water Atlas of the US, Segment 1, California, Nevada, Santa Clara Valley, accessed online at http://ca.water.usgs.gov/gwatlas/coastal/santa.html, on February 1, 2001.

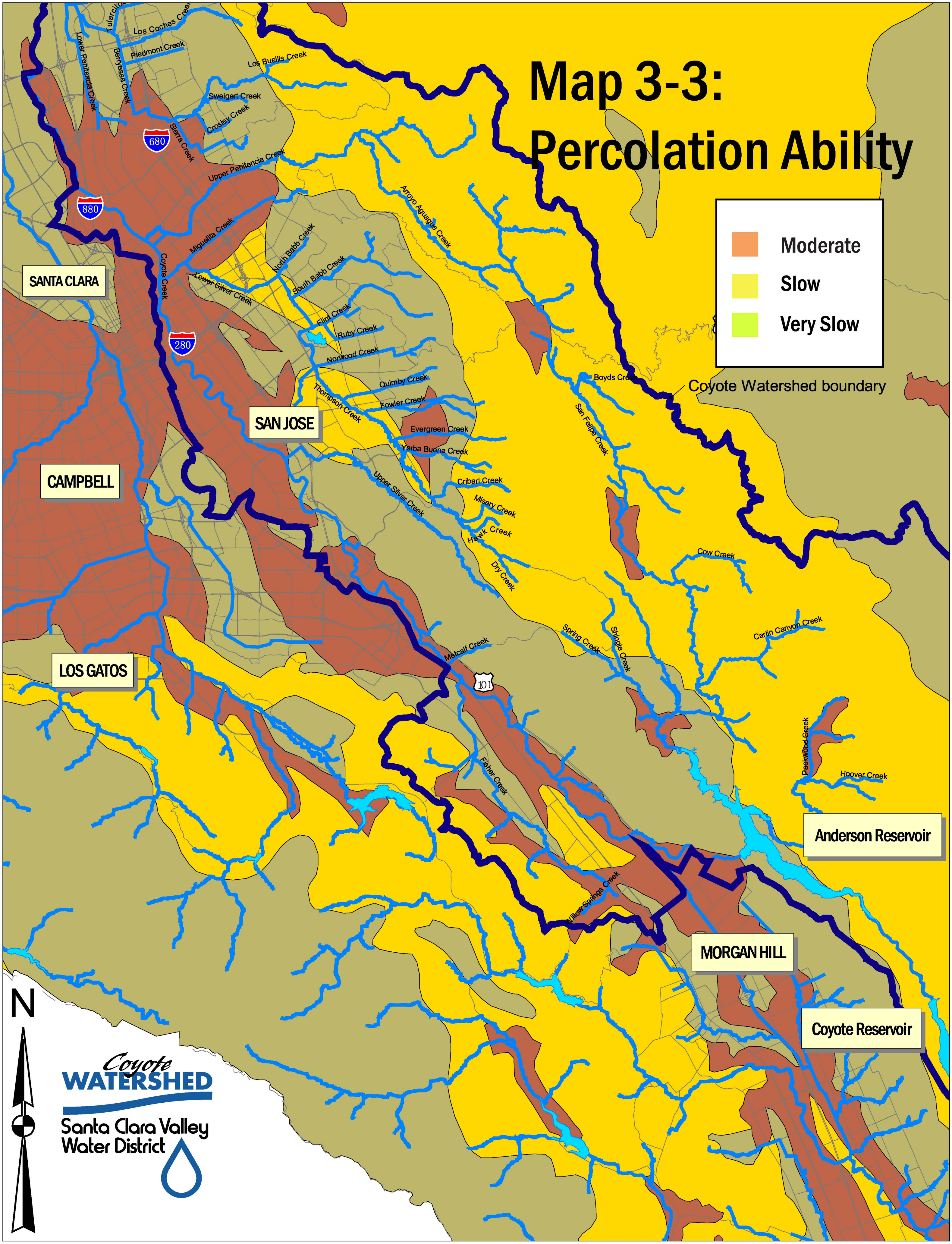
Map 3-1: Local Jurisdictions



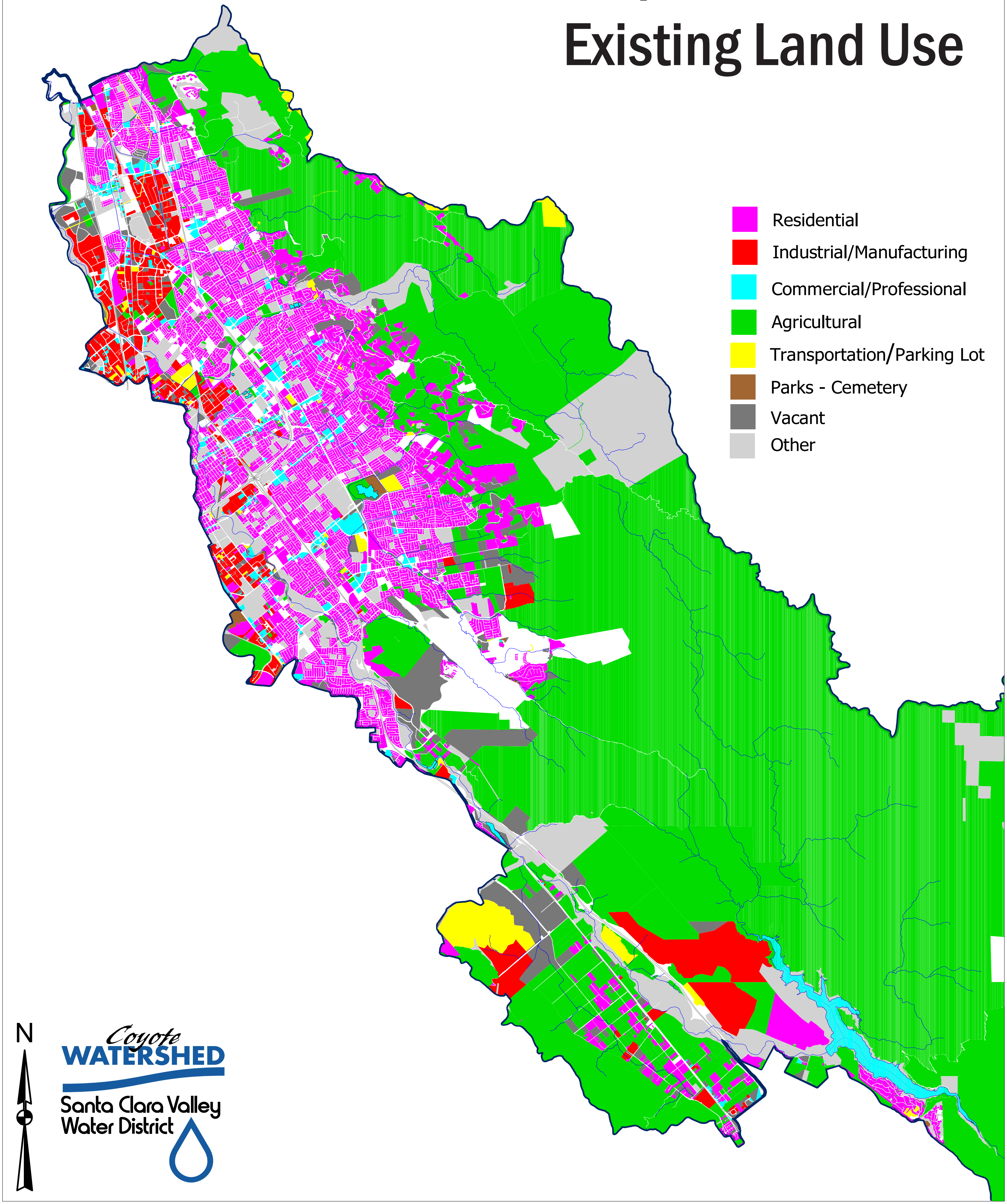
Map 3-2: 1% Floodplain



Map 3-3: Percolation Ability



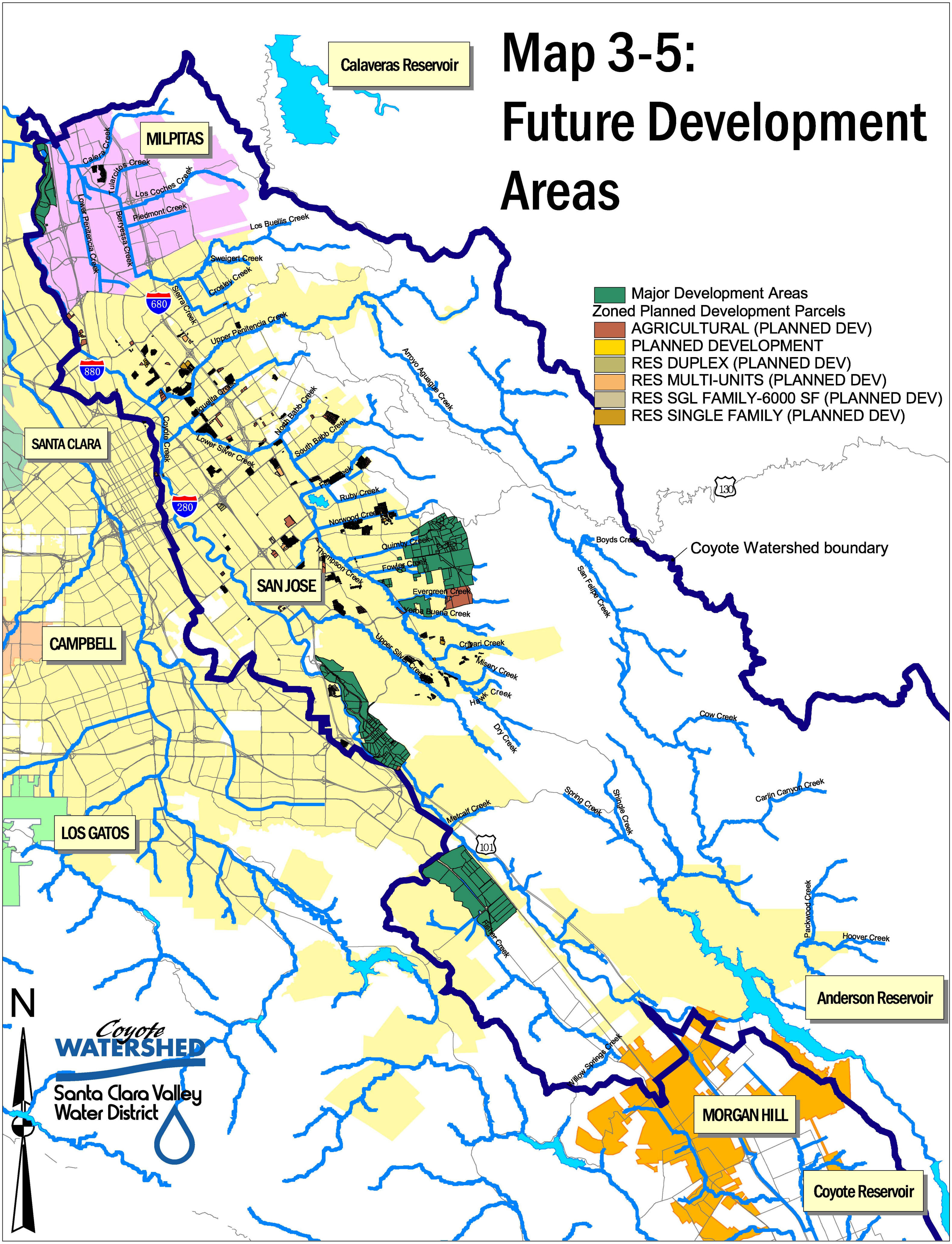
Map 3-7
Existing Land Use


🟪 Residential
🟥 Industrial/Manufacturing
🟦 Commercial/Professional
🟩 Agricultural
🟨 Transportation/Parking Lot
🟫 Parks - Cemetery
⬛ Vacant
⬜ Other
N

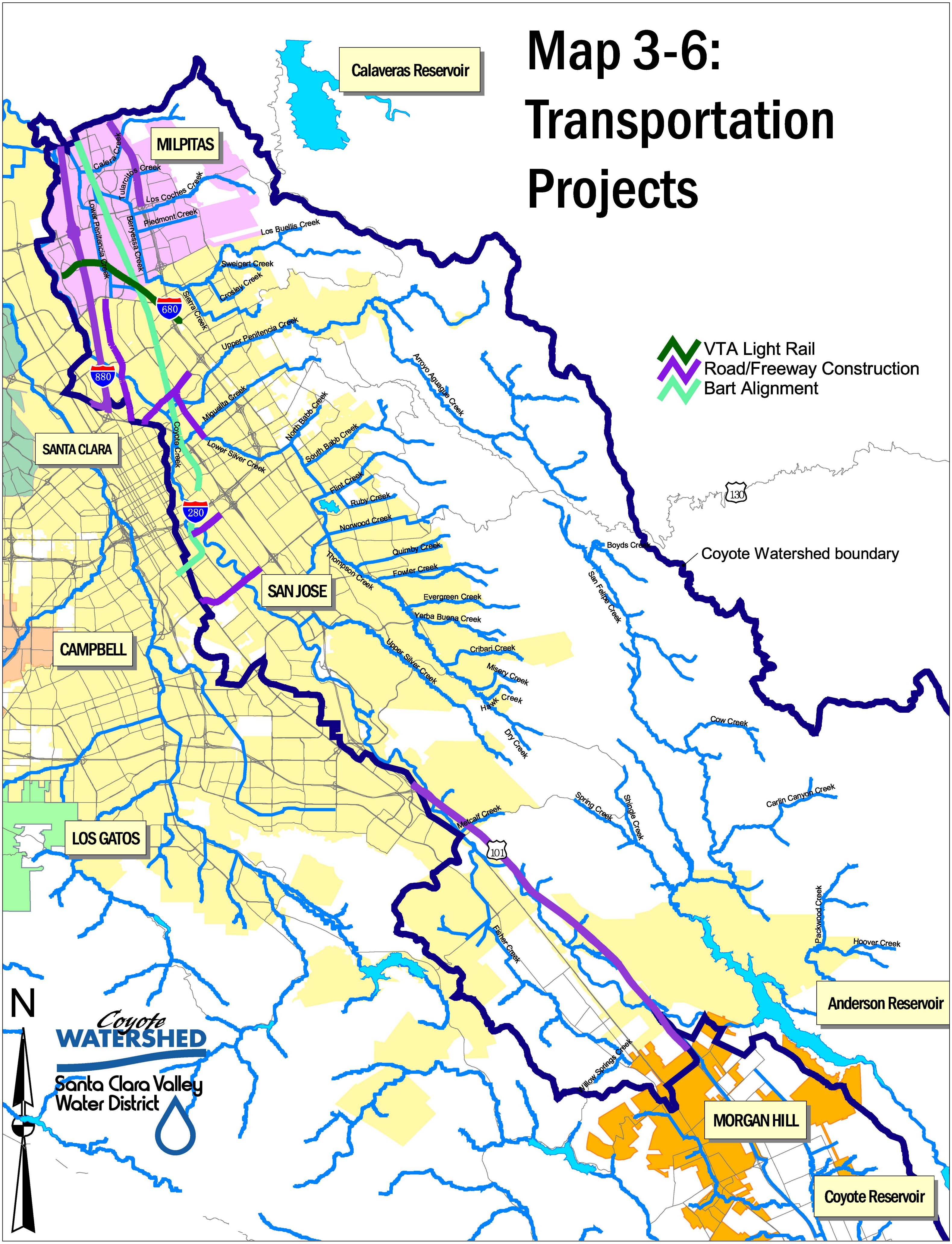
Coyote WATERSHED

Santa Clara Valley Water District

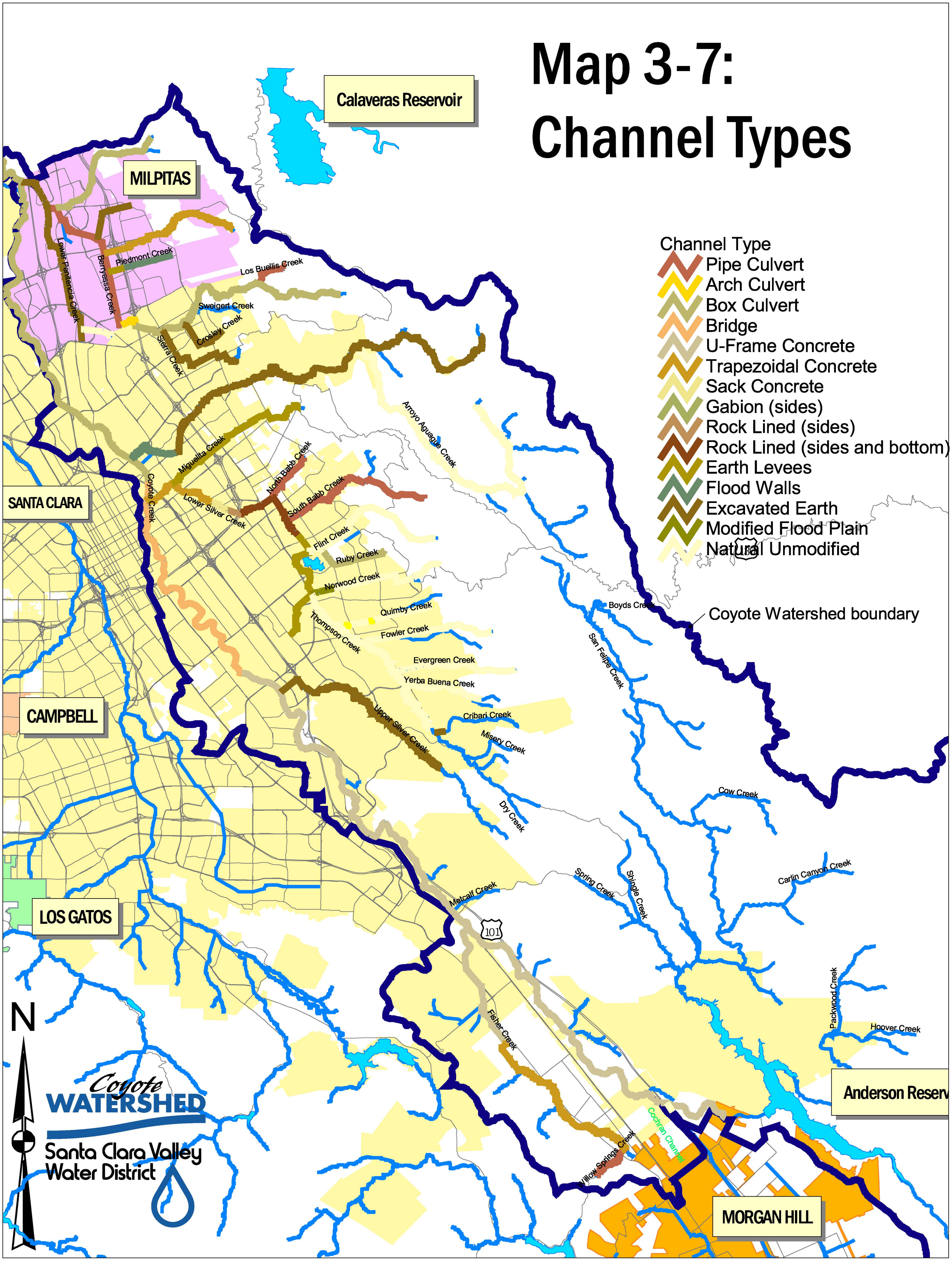
Map 3-5: Future Development Areas



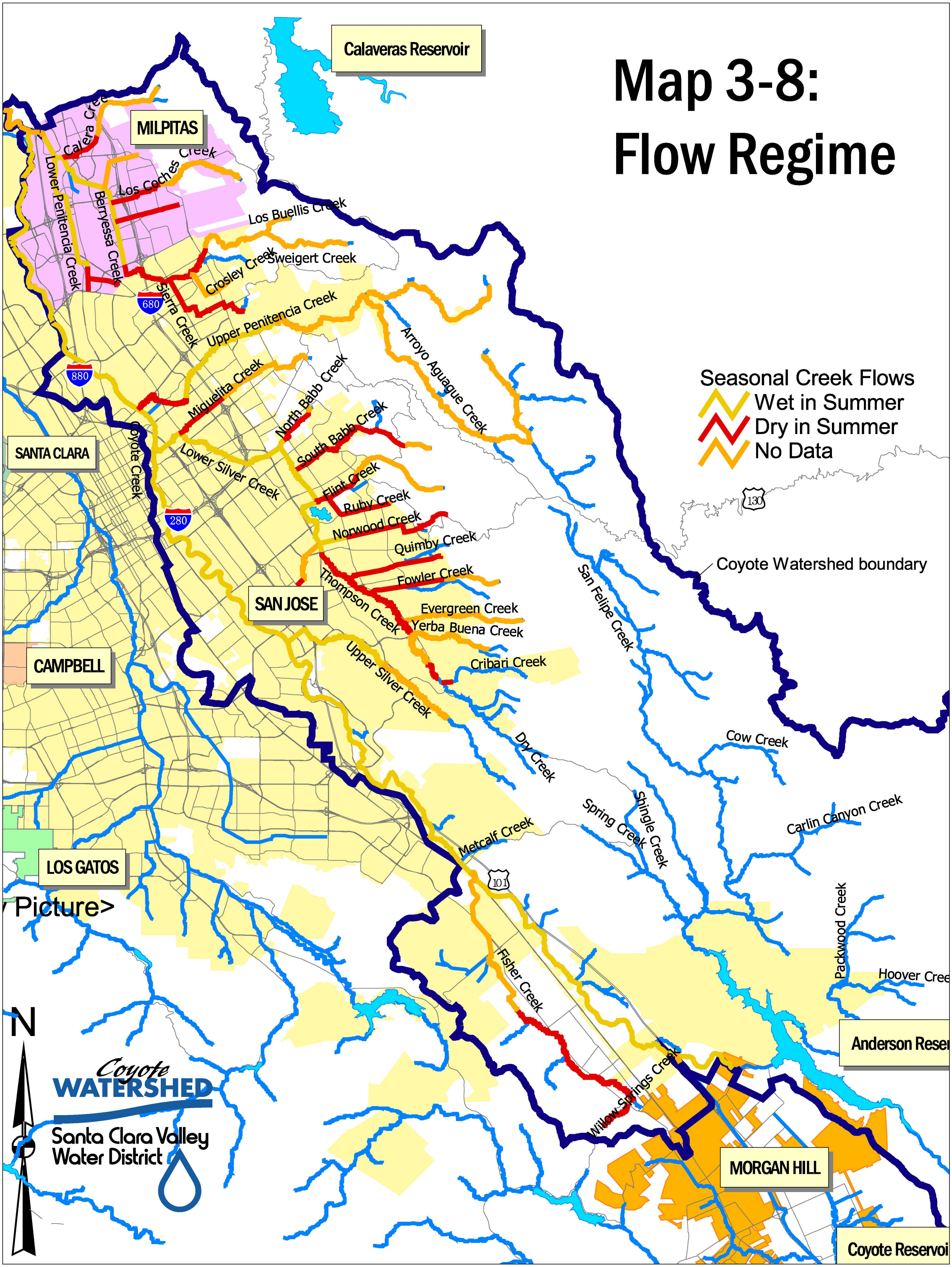
Map 3-6: Transportation Projects



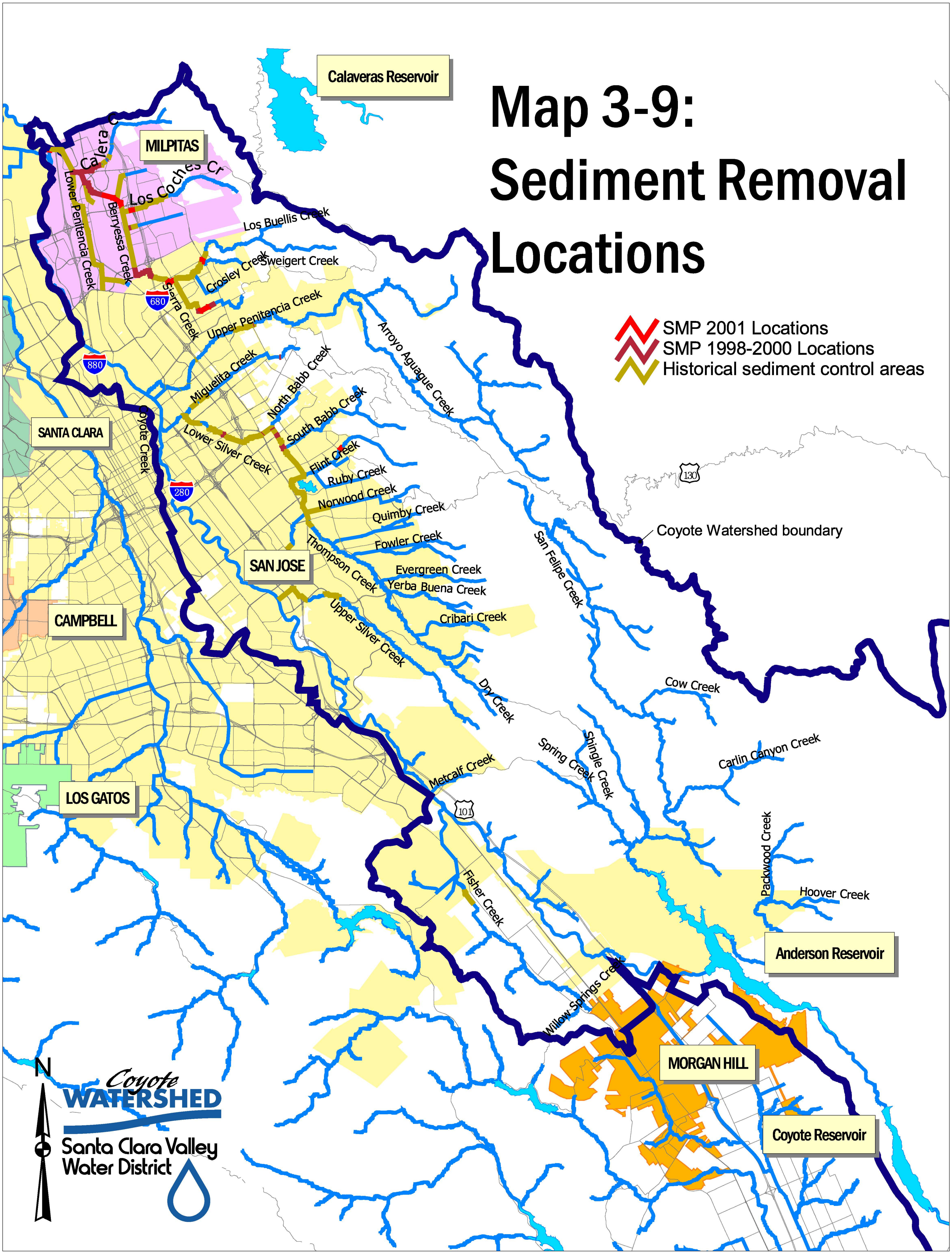
Map 3-7:
Channel Types



Map 3-8: Flow Regime



Map 3-9: Sediment Removal Locations



Chapter 4 Environmental, Biological and Recreational Conditions

The objective of this chapter is to provide a description of the resource conditions that frame the background for natural resource decision-making in the Coyote Watershed. This chapter attempts to summarize the results of studies performed by others and is not to be considered an encyclopedia of available information. This chapter will summarize existing conditions, and identify data gaps to allow planners to identify and prioritize further studies and investigations that may increase the success of managing natural resources and protecting and enhancing habitats. Any known data gaps of information are also identified in Section 4.9.

4.1 Riparian Habitat

Riparian habitats are located along the streambanks and floodplains along most creeks in the Coyote Watershed. The type and abundance of habitat is largely dependent on non-stream issues such as the amount of setback, stream flow regime or topography. Riparian habitats are normally characterized by lush vertical and horizontal vegetation, variable amounts moisture and light, and a very high biological diversity. District streams tend to be long and narrow, either integrating into the adjacent upland habitat (oak woodlands), ornamental landscaping, or other habitat, or constrained by adjacent land uses. Based upon the GIS analysis used by the District for the Stream Maintenance Plan in 2000, the District estimates that 8,000 to 20,000 acre as of riparian forest or woodland, associated urban forest, and upland woodlands occur adjacent to the 828 miles of stream within the District's jurisdiction (SCVWD, 2001). Vegetation varies from the top of the watershed to the bottom, where it drains into the bay. In the upper reaches of the watershed, the terrain is steep, flooding rarely occurs, and the impacts of urbanization are small to nonexistent. Upper Penitencia Creek is an example of this. Coast live oak (*Quercus agrifolia*), valley oak (*Q. lobata*), blue elderberry (*Sambucus mexicana*), big-leaf maple (*Acer macrophyllum*), western sycamore (*Platanus racemosa*), and California buckeye (*Aesculus californicus*) can be present or common. Shrubby native and non-native species may also be common, such as toyon (*Heteromeles arbutifolia*), California blackberry (*R. ursinus*), poison oak (*Toxicodendron diversilobum*) and Himalayan blackberry (*Rubus discolor*) (SCVWD, 2001). Note that the Himalayan blackberry is a non-native species.

In the lower parts of the watershed, there are floodplains that frequently flood. Many of these areas have been impacted by urbanization, so the streams have been channelized or deeply incised between steep banks in an effort to minimize flooding. Those banks with vegetation tend to have Fremont cottonwood (*Populus fremontii*), willows (*Salix spp.*), box elder (*A. negundo californicum*), western sycamore, coast live oak, valley oak, Northern California black walnut (*Juglans californica* var. *hindsii*), and blue elderberry. Understory shrubs can include

California rose (*Rosa californica*), blackberries, poison oak, and creeping snowberry (*Symphoricarpos laevigatus*) (SCVWD, 2001).

Different stream channels used to convey streamflow produce varying amounts of useful habitat, depending upon the nature of the channel. Unmodified channels with abundant trees and a wide corridor provide the best riparian habitat, water quality, and flood protection, whereas underground or covered channels provide little to none.

Earthen levees can limit riparian wildlife and aquatic species based on the amount of vegetation and compacted slopes present. Some channels can have lower slopes and some riparian vegetation, allowing for corridors for small mammals and roosts and nesting habitat for birds and bats. Since the slopes are usually compacted, this prevents burrowing wildlife, such as bank swallows, from utilizing the habitat. These channels usually support freshwater wetland and riparian scrub species, such as cattails (*Typha spp*.), sweet clover (*Melilotus alba*), smartweed (*Polygonum spp.*), and willow (*Salix spp*.). Invasive, non-native species such as giant reed (*Arundo donax*), pampas grass (*Cortaderia selloana*), black locust (*Robinia pseudoacacia*), and acacia (*Acacia spp.*) can also occur. If the channel does contain riparian scrub or perennial freshwater wetland vegetation, resident and migratory fish could find cover and shade, particularly if woody material, such as submerged logs, are present (RRAP, 2000).

Natural, unmodified channels can provide a range of habitats. Vegetation in these channels can range from thick riparian overstory to low-lying stream-side aquatic vegetation. Fish, amphibians, reptiles, mammals and birds will utilize different areas depending on the habitat requirements for the species.

Concrete and rock lined channels have limited habitat value, as there is little vegetation available to riparian wildlife. Some trees may occur on the top of some channel banks providing roosting and nesting for birds or cover for small mammals. Riprap can provide shelter for reptiles and small mammals, such as ground squirrels. If there is woody overstory, native fish can find cool water in the shade (RRAP, 2000). Lack of woody overstory can contribute to higher water temperatures, especially during the summer. This may create habitat conditions more favorable for native and non-native warm water fish species. Natural modified channels often lack vegetation and therefore provide little habitat for riparian dependant wildlife. Some areas can have scattered riparian vegetation on the banks, providing cover for small mammals and birds. Woody overstory and instream structures such as boulders and logs can provide cover for native fish.

A map of the known riparian habitat, prepared by Thomas Reid and Associates (SCVWD, 2000) and based on an aerial survey of vegetation, is shown in Map 4-1. A link to the preservation of riparian habitat and the Habitat Conservation Plan (HCP) underway by the District may need to be explored in later iterations of the Plan. Upon completion of the HCP, this information will be updated.

Wildlife: Healthy, vertically stratified riparian habitat supports the greatest diversity of wildlife habitat. Habitat consisting of trees, shrubs, and herbaceous and aquatic habitat creates areas for wildlife to breed, forage, and shelter. Common riparian birds include green herons (*Butorides striatus*), mallards (*A. platyrhynchos*), wood ducks (*Aix sponsa*), red-shouldered hawks (*Buteo lineatus*), belted kingfishers (*Ceryle alcyon*), downy woodpeckers (*Picoides pubescens*), Nuttall's woodpeckers (*P. nuttallii*), spotted towhees (*Pipilo maculatus*), Swainson's thrush (*Catharus ustulatus*), hermit thrush (*C. guttatus*), Bewick's wrens (*Thryomanes bewickii*), yellow-rumped warblers (*Dendroica coronata*), Wilson's warblers (*Wilsonia pusilla*), American robins (*Turdus migratorius*), house finches (*Carpodacus mexicanus*), Stellar's jays (*Cyanocitta stelleri*), mourning doves (*Zendaida macroura*), European starlings (*Sturnus vulgaris*), brown-headed cowbirds (*Molothrus ater*), Bullock's orioles (*Icterus bullockii*), black-headed grosbeaks (*Pheucticus melanocephalus*), Pacfic-slope flycatchers (*Empidonax difficilis*), black phoebes (*Sayornis nigricans*), chestnut-backed chickadees (*Poecile refescens*), bushtits (*Psaltriparus minimus*), and ruby-crowned kinglets (*Regulus calendula*) (SCVWD, 2001).

Other animals that use riparian habitat include Virgina opossums (*Didelphis virginiana*), Trowbridge's shrews (*Sorex trowbridgii*), broad-footed moles (*Scapanus latimanus*), western red bats (*Lasiurus blosevillii*), hoary bats (*L. cinerius*), Yuma myotis (*Myotis yumanensis*), deer mice (*Peromyscus maniculatus*), Norway rats (*Rattus norvegicus*), fox squirrels (*Sciurus niger*), gray fox (*Urocyon cinereoargenteus*), and bobcats (*Lynx rufus*) (SCVWD, 2001).

Reptiles and amphibians are also found in riparian habitat and its associated aquatic habitat. Species found in the Coyote watershed include western pond turtles (*Clemmys marmorata*), Pacific Treefrogs (*Hyla regilla* or *Pseudacris regilla*), Western toads (*Bufo boreas*), and California tiger salamanders (*Ambystoma californiense*). Western pond turtles and California tiger salamanders are currently listed as Species of Special Concern by the California Department of Fish and Game.

Shaded Riverine Aquatic Habitat: Shaded riverine aquatic habitat (SRA) defines the area within the riparian habitat that interfaces with a stream or river. SRA provides stream shading, contributes to instream and overhead cover and is a component of stream food production. Stream shading is important as it maintains cooler water temperatures. Cooler water temperatures contribute to the improvement of habitat for native aquatic species. SRA is also a component of instream and overhead cover. Cover provides areas for fish, amphibians and aquatic insects to hide and avoid predators. Overhanging vegetation and emergent aquatic vegetation can contribute cover as well as boulders, undercut banks, root wads, woody debris and water turbulence. An additional function of SRA involves plant material and terrestrial insects that fall into the stream, decompose and contribute to the stream food chain. All of these components show the importance of SRA to aquatic species.

4.1.1 Threatened and Endangered Species

Table 4-2 lists the federal and state listed threatened and endangered species that are known or likely to occur in riparian habitat in the Coyote Watershed.

TABLE 4-1: LIST OF THREATENED AND ENDANGERED SPECIES IN RIPARIAN HABITAT

Scientific Name	Common Name	Status	
		Federal	State
Animals			
Rana aurora draytonii	California Red-Legged Frog	Threatened	None
Riparia riparia (nesting)	Bank Swallow	None	Threatened

Source: California Department of Fish and Game Natural Diversity Database, Special Status Plants, Animals, and Natural Communities of Santa Clara County, revised April 5, 1999.

The bank swallow (*Riparia riparia*) is a migratory bird found primarily in riparian and other lowland habitats in California. It forms colonies, building nests by burrowing into vertical banks, bluffs, and cliffs containing sandy or fine textured soils. The bird requires open riparian areas for feeding on insects. They arrive in California in early March, peaking in May. Colony nests are abandoned by early August. The loss of nesting areas is causing the decline of this bird.

The red-legged frog (*Rana aurora draytonii*) lives in quiet streams, marshes, and occasionally in ponds. It prefers shorelines of extensive vegetation, and deep pools (3 feet deep) to escape predators. It eats aquatic and terrestrial insects, crustaceans, snails, worms, fish, tadpoles, and small frogs.

4.1.2 Areas of Protection

In March 2001, critical habitat was finalized for the red-legged frog by the US Fish and Wildlife Service. Unit 15, the East Bay-Diablo Range Unit, includes Coyote Creek and its tributaries as red-legged frog habitat. Primary elements that must be included in critical habitat areas include

- At least two or more suitable breeding locations;
- A water source;
- Associated upland areas surrounding the aquatic area, up to 300 feet from the water's edge; and
- Habitat areas must be within 1.25 miles of each other, and be connected by a barrier-free dispersal habitat at least 300 feet in width.

No other federally listed riparian plants or animals have proposed or final designated critical habitats within the Coyote Watershed.

4.2 Wetlands

Under ordinary conditions, wetlands and riparian areas have the capacity to store floodwater, thus serving to desynchronize flood events, diminish the erosive power of flood flows, and filter sediments. Slow release of water stored in wetlands recharges groundwater, which feeds streams during dry periods – an essential function in regulating the timing and quantity of runoff and in sustaining aquatic life. Corridors along hydrogeomorphically connected wetlands provide a means for wildlife to move through and between ecosystems. High groundwater also supports a community of plants that is quite different from the vegetation of the better-drained hillslopes above. The roots of wetland and riparian plants help to stabilize streambanks and shorelines, and this vegetation also takes up nutrients and contaminants in stormwater. Wetlands also provide an array of other types of benefits, as outlined below.

People, Fish, and Wildlife

- Amphibian and turtle habitat
- Breeding areas for water birds
- Endangered species
- Food-chain support
- Habitat for migratory and wintering water birds
- Habitat for resident and anadromous fish
- Recreation
- Shoreline stabilization
- Vegetation diversity

Hydrologic System

- Base flow to streams
- Flood energy dissipation
- Flood storage and desynchronization
- Groundwater storage
- Infiltration
- Interception

Water Quality

- Detoxification
- Nutrient removal
- Phosphorus and nitrogen processing
- Processing of inorganic solids
- Sediment trapping

- Water-temperature regulation

4.2.1 Locations

A map of the existing wetland areas, as identified by the National Wetlands Inventory (U.S. Fish and Wildlife Service, 1999), is included as Map 4-2. However, on a finer scale, most earthen channels with vegetation found on saturated soils or in inundated areas, can potentially be considered wetlands. According to the NWI, excluding Coyote Creek, Lake Cunningham and the Coyote Reservoir, other wetland areas are located in Milpitas along Coyote and Lower Penitencia Creeks. Excluding Coyote Creek, Lake Cunningham and the Coyote Reservoir, there is a total of 659 acres of wetlands at 349 separate locations within the Coyote Watershed, according the NWI. These three other sites comprise over 932 acres alone. These totals do not include seasonal wetland areas such as those adjacent to the proposed Coyote Valley Research Parksite in Coyote Valley. This map does not include tidal wetlands associated with Coyote Creek in the Baylands area.

4.2.2 Quality

The quality of the wetlands present in the Coyote Watershed needs to be identified. This was identified as a data gap.

4.2.3 Threatened and Endangered Species

Threatened and endangered species that occur in salt water marsh habitats include the California clapper rail, salt marsh harvest mouse, the California least tern, the western snowy plover, and the California seablite. The California clapper rail and the salt marsh harvest mouse are both dependent on the pickleweed for habitat, and declines in tidal marsh habitat has subsequently affected these species. California least terns and western snowy plovers nest along estuary shores and abandoned salt ponds. The California seablite is a plant that occurs on the margins of coastal salt marshes below five meters. It is unknown whether this plant is still extant in Santa Clara County. Table 4-3 presents a summary of the threatened and endangered species in wetland habitats that are known or likely to be in the Coyote Watershed area.

TABLE 4-2: LIST OF THREATENED AND ENDANGERED SPECIES IN WETLAND HABITAT

Scientific Name	Common Name	Status	
		Federal	**State**
Plants			
Suaeda californica	California Seablite	Endangered	None
Animals			
Charadrius alexandrinus nivosus (nesting)	Western Snowy Plover	Threatened	None
Rallus longirostris obsoletus	California Clapper Rail	Endangered	Endangered
Sterna antillarum browni (nesting colony)	California Least Tern	Endangered	Endangered
Reithrodontomys raviventris	Salt-Marsh Harvest Mouse	Endangered	Endangered

Source: California Department of Fish and Game Natural Diversity Database, Special Status Plants, Animals, and Natural Communities of Santa Clara County, revised April 5, 1999.

4.2.4 Areas of Protection

There are no designated critical habitat areas, proposed or final, that occur in Coyote Watershed for any federally listed wetland animal or plant species. The Baylands, though not in the Coyote Watershed, is habitat for the Salt Marsh Harvest Mouse and the Clapper Rail, and is protected through various refuges and other protections, such as NPDES discharge limits.

4.3 Aquatic Habitat

The Coyote Watershed has a wide variety of native aquatic species, including Steelhead/rainbow trout (*Oncorhynchus mykiss*), Pacific lamprey (*Lampetra tridentate*), California roach (*Hesperoleucus symmetricus*), Hitch (*Lavinia exilicauda*), Sacramento Blackfish (*Orthodon microlepidotus*), Sacramento sucker (*Catostomus occidentalis)*, threespined stickleback (*Gasterosteus aculeatus*), prickly sculpin (*Cottus asper*), riffle sculpin (*C. gulosus*), and the Sacramento perch (*Archoplites interruptus*). However, there are numerous barriers to passage in Coyote Creek and its tributaries that hinder steelhead and chinook salmon from easily migrating upstream. These include permanent and seasonal dams, drop structures, and ephermeral stream reaches. Stream temperatures and seasonal streamflows have also affected steelhead and salmon migration. Because of this, most of the Coyote Creek mainstem provides only marginal habitat for native aquatic life such as fish, invertebrates, and other organisms, allowing for the proliferation of nonnative fish (WMI, 2000). Some tributaries within the system do provide suitable habitat for native fishes, however a full understanding of existing conditions on the tributaries is largely unknown. As a result, more in-depth study is required for a comprehensive assessment of aquatic habitat conditions in the system. Currently several studies within the District are looking at existing conditions in the Coyote and its tributaries. If data from these studies is made available, habitat requirements for aquatic species may be further identified and incorporated into the Plan.

4.3.1 Locations

Aquatic habitat is considered to be the streams and lakes of the Coyote Watershed.

4.3.2 Quality

The quality of aquatic habitat in Coyote Creek and its tributaries needs to be determined.
Both Coyote and Anderson Reservoir are used for drinking water supplies, and therefore contain good quality water. Both of these lakes allow fishing in accordance with California State Department of Fish and Game regulations. Both the Parkway Lakes and Lake Cunningham are also periodically stocked with fish.

4.3.3 Threatened and Endangered Species

Steelhead are a federally threatened aquatic species known to occur in the Coyote Watershed.

Steelhead (*Oncorhynchus mykiss*) are the sea-run form of rainbow trout. These fish need cold, clean water. Juvenile fish stay in the streams for one to two years before smolting (changing physically to adapt from freshwater to saltwater) and migrating to the Pacific Ocean. Steelhead reside in the ocean for one to three years, and then return to freshwater to spawn. Unlike salmon, steelhead do not always die after spawning and may spawn several times.

Steelhead and other salmonids require clean gravel and swift water (stream gradients of 3 to 5%) for spawning, so that water and oxygen can flow around the eggs and newly hatched fry.

4.3.4 Areas of Protection

The National Marine Fisheries Service has identified the Coyote Watershed from Anderson Reservoir to the South San Francisco Bay listed as critical habitat area for the Central California Coast evolutionary significant unit (ESU) steelhead. This covers all river and estuarine areas accessible to listed steelhead in the San Francisco Bay. Anderson Dam is an impassable barrier to passage for fish. While specific habitat descriptions cannot be made due to the wide geographical range of steelhead, in general the fish require the following conditions for critical habitat areas:

- Juvenile rearing areas;
- Juvenile migration corridors;
- Adult migration corridors; and
- Spawning areas.

Specific features that are required include

- Good quality substrate;
- Water quality, quantity, temperature, and velocity;
- Cover and shelter;
- Food;
- Riparian vegetation;
- Space; and
- Safe passage.

In addition to Steelhead trout, California Red-Legged frogs are also a federally listed species that utilizes aquatic habitats. Further discussion on this species can be found in Section 4.1.

4.4 Grassland and Woodland Areas

The Santa Clara Valley floor historically contained grassland, surrounded by woodland areas in the surrounding upland. In the valley floor grassland, moisture is low and evaporation high. Nonnative species of grasses are common, however, species occurring on serpentine soils and outcrops are typically native, since nonnative species cannot tolerate this type of soil. Other native grasses and forbs can grow on higher hilltops, rocky outcroppings, and other areas where cattle cannot reach them. Typical native grasses include valley needlegrass (*Nassella spp.*) and onion grass (*Melica spp*.).

Woodland areas found in the foothills usually consist of widely spaced oak trees. The coast live oak, interior live oak (*Quercus wislizenii*), black oak (*Ouercus kelloggii*), blue oak (*Quercus douglasii*), valley oak (*Quercus lobata*) and gray pine (*Pinus sabiniana*) commonly make up these woodland areas. In the Diablo Range, blue oak, gray pine, and interior live oak make up most of the woodland, whereas in the Santa Cruz Mountains it is primarily coast live oak and tan oak (*Lithocarpus densiflorus*) (WMI, 2000).

4.4.1 Locations

Most grassland areas can be found on the valley floor of the watershed, whereas the upland areas of the watershed provide woodland habitat. Areas of serpentine soils do contain critical habitat for endangered/threatened species, as these areas tend to contain native Californian vegetation. Specific grassland and woodland areas have not been identified yet.

4.4.2 Quality

The quality of the grassland and woodland areas in the watershed needs to be identified.

4.4.3 Threatened and Endangered Species

Table 4-5 shows those threatened and endangered species that are known or likely to occur in the grassland and woodland habitat areas of the Coyote Watershed.

TABLE 4-3: LIST OF THREATENED AND ENDANGERED SPECIES IN GRASSLAND AND WOODLAND HABITAT

Scientific Name	Common Name	Status	
		Federal	State
Plants			
Castilleja affinis ssp neglecta	Tiburon Indian Paintbrush	Endangered	Threatened
Ceanothus ferrisae	Coyote Ceanothus	Endangered	None
Dudleya setchellii	Santa Clara Valley Dudleya	Endangered	None
Streptanthus albidus ssp albidus	Metcalf Canyon Jewel-Flower	Endangered	None
Animals			
Euphydryas editha bayensis	Bay Checkerspot Butterfly	Threatened	None
Vulpes macrotis mutica	San Joaquin Kit Fox	Endangered	Threatened

Source: California Department of Fish and Game Natural Diversity Database, Special Status Plants, Animals, and Natural Communities of Santa Clara County, revised April 5, 1999.

The bay checkerspot butterfly occurs in areas serpentine soil areas where its host plant, dwarf plantain (*Plantago erecta*) grows. The San Joaquin kit fox dens in open, level areas with loose, textured loamy and sandy soils. It is mostly nocturnal, living in grasslands, grassy open stages of vegetation with scattered brush and scrub.

Endangered and threatened plants that occur in grassland areas with serpentine include Tiburon Indian paintbrush, coyote ceanothus, Santa Clara Valley dudleya, and Metcalf Canyon jewel-flower. Robust spineflower can occur in sandy places in coastal bluff, terrace, dunes and grassland, but is most likely extirpated from Santa Clara County.

4.4.4 Areas of Protection

The bay checkerspot butterfly is the only species with identified critical habitat in the Coyote Watershed. Primary elements of the bay checkerspot butterfly's habitat include:

- Open grassland areas with stands of *Plantago erecta*, *Castilleja exserta*, or *Castilleja densiflora,*
- Spring flowers providing nectar,
- Pollinators of the bay checkerspot's food and nectar plants are present,
- Serpentine soil,
- Stable hole or cracks in soil and rocks to provide for shelter,
- Wetlands providing moisture during spring droughts, and
- Space for dispersal.

The US Fish and Wildlife Service recently released proposed locations of critical habitat, and five of these areas located are located within the Coyote Watershed. These are Unit 4 (Bear Ranch Unit), Unit 8 (Kirby Unit), Unit 10 (Metcalf Unit), Unit 11 (San Felipe Unit) and Unit 12 (Silver Creek Unit). The Bear Ranch Unit occurs near Coyote Reservoir. The Kirby Unit is bounded roughly by Coyote Creek to the south, US 101 to the west, Anderson Reservoir to the east, and Metcalf road to the north. The Metcalf unit is approximately bounded by Metcalf Road to the south, US 101 to the west, Silver Creek to the east, and Silver Creek Valley Road to the north. San Felipe Road and Silver Creek bound the San Felipe Unit, and the Silver Creek Unit is bounded by Silver Valley Road to the south, Coyote Creek and US 101 to the west, and Yerba Buena to the north.

No other federally listed grassland and woodland plants or animals have proposed or final designated critical habitat areas within the Coyote Watershed.

4.5 Invasive and Non-native Species

Exotic, or non-native species are troublesome in ecosystems as they compete with native species. Often these new, invasive species dominate the native species, causing the native populations to decline. For instance, bullfrogs and fish are some of the factors responsible for the decline of the native red-legged frog in California, because these predators eat juvenile red-legged frogs (Dudley, 2001).

There are many exotic plants in the San Francisco Bay Area that appear on the California Exotic Pest Plant Council's (Cal EPPC) List of Exotic Pest Plants of Greatest Ecological Concern in California (October, 1999). This list describes invasive plants that threaten wildland areas (areas that support native ecosystems), forcing out native plant species. A subset of List A-1 and A-2 containing plants that may occur in the Coyote Watershed and that are considered to be the most invasive are listed below. However, it should be noted that this list is in no way complete or necessarily indicative of conditions in the Coyote Watershed. Most of the following plants invade riparian and wetland habitats.

- Giant Reed (*Arundo Donax*)
- Pampas Grass (*Cortaderia selloana*)
- Tasmanian Blue Gum (*Eucalyptus spp.*)
- French Broom (*Genista monspessulan*)
- Fountain grass (*Pennistetum setacean*)
- Cape or German Ivy (*Senecio mikanioides*)
- Tamarisk or salt ceder (*Tamarix chinensis, T. gallica, T. parviflora*, and *T. ramosissima*)
- Smooth cordgrass (*Spartina alterniflora)*
- Himalayan blackberry *(Rubus discolor)*
- Perennial peppergrass *(Lepidium latifolium)*

- Austrailian saltbush *(Artiplex sembaccata)*
- Heart-podded hoary cress *(Cardaria draba)*
- Tree of heaven *(Ailanthus altissima)*
- Yellow star thistle *(Centaurea solstitialis)*
- French broom *(Genista monspessulana)*
- Fountain grass *(Pennisetum setaceum)*

Puple loosestife (*Lythrum salicaria*) and Chinese tallow tree (*Sapium sebiferum*) are listed as species that have the “potential to spread explosively,” or to spread quickly over an area once they are established.
Table 4-6 lists non-native and invasive animal species that are known or are likely to occur in the Coyote Watershed.

The Chinese mitten crab is an invasive species that was found in South San Francisco Bay in 1992. In 1995, the Marine Science Institute in Redwood City conducted a survey and found these crabs in Coyote Creek at a concentration of 2.6 crabs per square meter (or 2.6 crabs per 11 square foot area). These crabs live in salt water as adults, but freshwater as juveniles. They can cause damage to levees and streambanks by burrowing into the banks causing erosion. In general, the crabs prefer clay banks lined with tule. Concrete and rock-lined channels and low freshwater flows prevent the crabs from becoming established in some stream channels, however they are known for being able to transverse barriers to migrate upstream (MSI, 2001).

TABLE 4-4: NON-NATIVE AND INVASIVE ANIMAL SPECIES POTENTIALLY OCCURRING IN THE COYOTE WATERSHED

Common Name	**Scientific Name**
Virginia opossum	*Didelphis virginiana*
House mouse	*Mus musculus*
European starling	*Sturnus vulgaris*
House sparrow	*Passer domesticus*
Goldfish	*Carassius auratus*
Carp	*Cyprinus carpio*
Mosquito fish	*Gambusia affinis*
Brown bullhead	*Ictalurus nebulosus*
Green sunfish	*Lepomis cyanellus*
Bluegill sunfish	*Leopmis macrochirus*
Rainwater killifish	*Lucania parva*
Large mouth bass	*Micropterus salmoides*
Golden shiner	*Notemigonus crysoleucas*

Common Name	**Scientific Name**
Bullfrog	*Rana catesbeiana*
Fathead minnow	*Pimephales promelas*
Chinese mitten crab	*Eriocheir sinensis*

Sources:
Riparian Restoration Action Plan, City of San Jose, 2000.
District staff input

4.6 Surface Water Quality

Both point and non-point pollution sources impact stream water quality. Non-point source runoff from winter storms, overland flow, construction sites, exposed soil, roofs, parking lots and streets influences the water quality of streams in the Coyote Watershed. Any pollutants or items typically found on city streets or construction sites can be a potential source of non-point source pollution, because stormwater discharges are not treated at a stormwater or combined sanitary sewer/stormwater treatment plant, but instead are collected in a separate storm drain system and discharged into the local creek.

A number of water bodies in Santa Clara County were included on the 1998 State of California 303(d) list of impaired water bodies. Coyote Creek was cited as being impaired due to high levels of diazinon. The South San Francisco Bay, was found to be impaired for mercury, copper, nickel, diazinon, PCBs, selenium and exotic species.

It is expected that total maximum daily load (TMDL) regulations will be updated and implemented for various constituents in many of the creeks the District maintains. The exact timing and parameters has not finalized at this time, though an updated TMDL report is expected by June 2002, with the implementation plan and basin plan amendment to follow. As this information is developed, they will be incorporated into the Plan.

Another major creek corridor problem is trash and debris accumulation. Creeks can be dumping grounds for shopping carts, furniture or other associated debris. This debris can become extremely difficult to remove if sediment or debris buildup buries the trash in the stream channel. The District has programs such as Adopt-a-Creek and supports Creek Cleanup Days to help cleanup certain creeks, but ongoing programs are required to completely mitigate the situation.

4.6.1 Locations

Major water bodies in the Coyote Watershed are Anderson Reservoir, Coyote Reservoir, Lake Cunningham, Coyote Ponds, Cherry Flat Reservoir and Upper Penitencia Percolation Ponds.

4.6.2 Beneficial Use Designation

Many District water bodies have multiple beneficial uses, such as hiking, boating or fishing. Fishing is allowed at all District water bodies during fishing seasons. Lake Cunningham and the Coyote Ponds are stocked with fish. Boating is also common on Anderson Reservoir and Coyote Lake. There are restrictions on the type of gasoline allowed in District maintained reservoirs due to the presence of methyl-tertiary butyl ether (MTBE) as an oxygenate in gasoline. More information about hiking trails is in Section 4.8.

4.6.3 Condition

High levels of MTBE found in Coyote Lake have limited the amount of jet-ski launchings onto the lake. Anderson does not allow for any jet skis to be launched.

4.7 Recreation – Open Space

The Santa Clara County Open Space Authority (SCCOSA), created in 1993, is a publicly elected benefit assessment district created by popular vote. The SCCOSA's jurisdictions comprise the entire Coyote Watershed area, and all of Santa Clara County. To fund SCCOSA activities, a $12/parcel annual assessment is levied on all residential parcels in Santa Clara County.

The SCCOSA prepared a 5-year Master Plan in 1996 to target areas to preserve as open space. They defined the benefits of open space areas as (SCCOSA, 1996):

- The preservation or restoration of the natural environment;
- Outdoor recreation;
- Agriculture;
- Greenbelts and/or urban buffers; and
- Preservation of significant scenic structures or viewsheds;

A number of properties were defined in the Master Plan as meeting one of these five criteria, including many in the Coyote Watershed, especially in the upland and Coyote Valley areas. Due to the need to negotiate the rights to buy property, the SCCOSA does not prioritize which parcels are most critical to acquire. However, a priority ranking system is based on a number of factors, including:

- Whether the local jurisdiction desires the property to remain open space
- Susceptibility to development
- Proximity to urban areas
- Whether property is contiguous with other open space areas
- Financial concerns

Some of the areas desired by the SCCOSA are proposed for future development, including areas in Evergreen and Coyote Valley. Development of these areas permanently removes these areas from potential consideration by the SCCOSA. The SCCOSA recently acquired two properties in the Coyote Watershed: Palassou Ridge and a 534-acre parcel adjacent to Alum Rock Park. The

Palassou Ridge area was acquired in partnership with the District and the California Nature Conservancy.

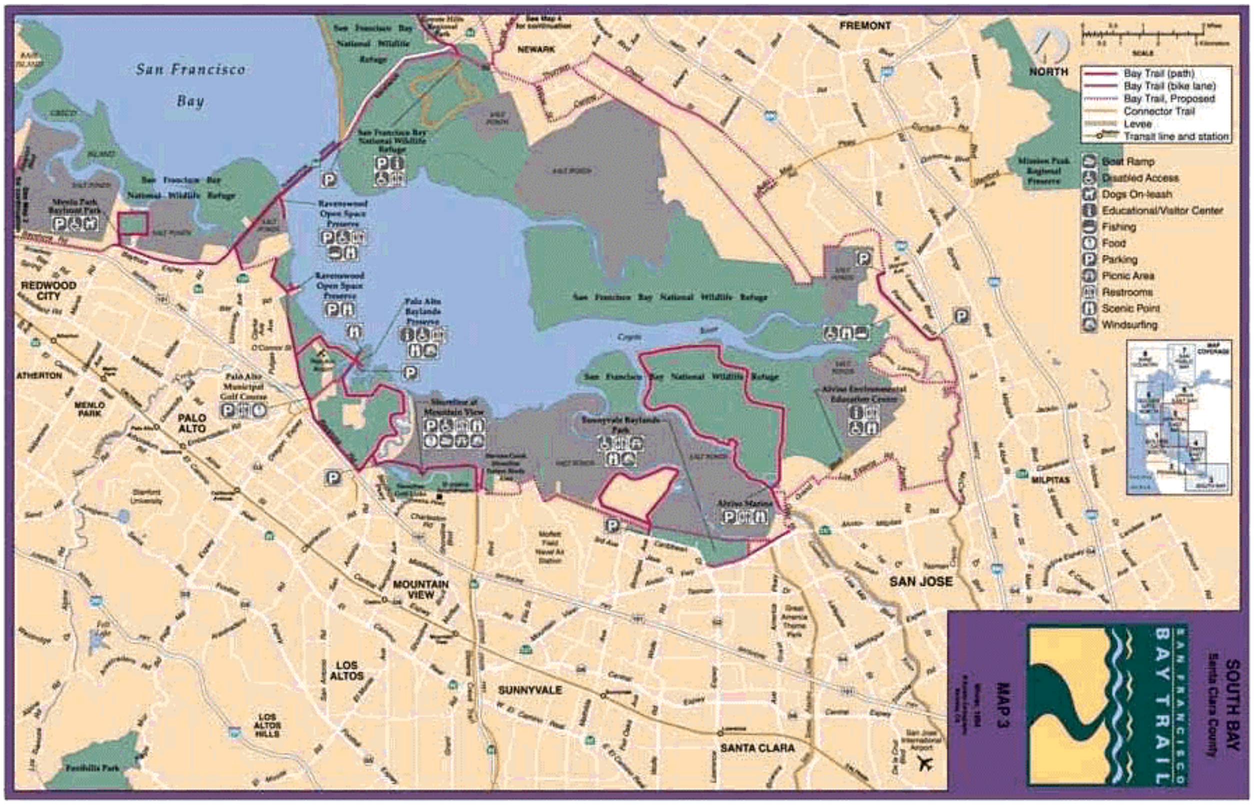
4.7.1 Coyote Valley Greenbelt

The Coyote Valley Greenbelt is a major open space preservation effort currently underway. The Santa Clara County Planning office is currently developing a report to more clearly define, identify the importance of, and present the challenges currently facing this portion of Southern Coyote Valley. As a part of this effort, they drafted a joint resolution with the City Councils of Morgan Hill and San Jose and the Santa Clara County Board of Supervisors to limit development on this open space. Previous zoning designations did not necessarily prevent the development of these lands. This area will serve a buffer between urban San Jose and Morgan Hill.

4.8 Recreation – Trails

There are numerous trails that are existing and desired within the Coyote Watershed, including the San Francisco Bay Trail. This trail is intended to allow hikers to circle the San Francisco Bay along a continuous trail. A portion of this trail would cross the City of Milpitas along Coyote Creek. Portions of the Bay Trail have been completed to about Mission Boulevard, but the portion between that location and Coyote Creek is missing.

FIGURE 4-1: MAP OF SAN FRANCISCO BAY TRAIL



Reference: San Francisco Bay Trail Map – South Bay, Association of Bay Area Governments, 2000, http://www.abag.ca.gov

The Bay Trail is also intended to interconnect local trails, to allow hikers not wishing to circle the entire bay access to other local trails. Along the Bay Trail, the City of Milpitas Trails Master Plan and the Santa Clara County Countywide Trail Master Plan have identified many additional interconnected trails for future construction. A complete list of these trails, along with a list of all known existing trails, is included in Table 4-7. A map of all of the trails outlined in Table 4-7 is included as Map 4-3.

TABLE 4-5 –PLANNED AND EXISTING COYOTE WATERSHED TRAILS

Trail	Route	Location	Agencies	Status
Coyote Creek / Llagas Subregional Trail	Coyote Creek	Alameda County Line to Zanker	MP, SJ	
	Coyote Creek	Zanker to Penitencia Creek	MP, SJ	
	Coyote Creek	Penitencia Creek to Coyote/Hellyer County Park	SJ	

Trail	Route	Location	Agencies	Status
	Coyote Creek	Coyote/Hellyer County Park to Burnett Ave	County	Completed
	Hwy 101	Burnett Ave to Cochrane Rd	County	
	Hwy 101/Little Llagas Creek Flood Control	Cochrane Rd to Llagas Creek	County, Morgan Hill, District	
Bay Area Ridge Trail: Diablo Range	Ridgeline	Ed Levin Co Park to Berryessa Creek	MP	Partially Completed
	Ridgeline / Sierra Rd.	Berryessa Creek to Sierra Rd	County, SJ	
	Eagle Rock	Sierra Rd to Alum Rock Park	SJ County	
	Crothers Rd. / Mt. Hamilton Rd.	Alum Rock Ridgeline on Mt Hamilton Rd	County, SJ	
	Alum Rock Ridgeline	Alum Rock Park on Mt Hamilton Rd	County, SJ	
	Mt. Hamilton Rd.	Mt Hamilton to Grant County Park	County	
	Grant Ranch County Park	Within Grant County Park	County	Completed
	Mt. Misery	Grant Ranch Co Park to San Felipe Rd	County, SJ	
	Ridgeline	San Felipe Rd to Metcalf	County	
	Ridgeline Pigeon Point	Metcalf to Anderson Reservoir	County	
	Anderson Reservoir - west shoreline	Pigeon Point Ridge to Upper Anderson Lake/Animas Creek	County	
	Anderson Reservoir - east shoreline/East Dunne Ave.	Upper Anderson Reservoir/Las Animas Creek to East Dunne Ave/Cochrane Bridge	County, SJ	
Bay Area Ridge Trail: El Sombroso/Penetencia	Penitencia Creek	Coyote Creek to Jackson Ave	SJ, County	Partially Completed
	Penitencia Creek	Jackson Ave to Piedmont / White Rd	SJ, County	Partially Completed
	Penitencia Creek	Piedmont / White Rd to Alum Rock Park	SJ, County	
	Penitencia Creek	Alum Rock Park	SJ, County	Completed
Bay Area Ridge Trail: Mt. Madonna /Coyote Lake	Coyote Creek / Anderson Lake and Dam- west shore	Cochrane Ave @ Coyote Creek Parkway to Lake Anderson / Pigeon Point Ridge	SJ, County	

Trail	Route	Location	Agencies	Status
Calera Creek Connector Trail	Calera Creek	Higuera Adobe Park to Ed Levin Co Park	MP	
Calaveras Connector Trail	Dixon Landing Rd.	Coyote Creek to Warm Springs Rd	MP	
	Dixon Landing, Arizona, Jacklin, Park Victoria Dr.	Warm Springs Rd to Calaveras Rd	MP	
	Calaveras Rd. Ed Levin Co. Park	Piedmont Rd to Mission Peak	MP, County	Partially Completed
Piedmont Connector Trail		Piedmont to Bay Area Ridge Trail	MP	
Silver Valley Connecting Trail		Coyote Creek County Park to Montgomery Hill Park	SJ	Partially Completed
		Evergreen Valley College / Montgomery Hill Park to Grant Ranch County Park	SJ, County	
Silver Creek Connecting Loop Trail	Thompson Creek Cunningham	Lake Cunningham to Aborn Rd	SJ	
	Thompson Creek/San Felipe Rd.	Aborn Rd to Silver Creek Rd	SJ	
	Silver Creek/Silver Creek Rd.	Aborn Rd to San Felipe Rd	SJ	
South Metcalf Trail		Coyote Creek Parkway @ Piercy Rd to Bay Area Ridge Trail	County, SJ	

Acronyms: H = Hiking, B = Bicycling, On/off = On road, off road, E = Equestrian, SJ = San Jose, MP = Milpitas

4.9 Identification of Known Data Gaps

Portions of this chapter could not be completed due to the current unavailability of information. As this information becomes available, it will be reviewed and incorporated into the Plan. A partial list of data gaps follows in Table 4-8.

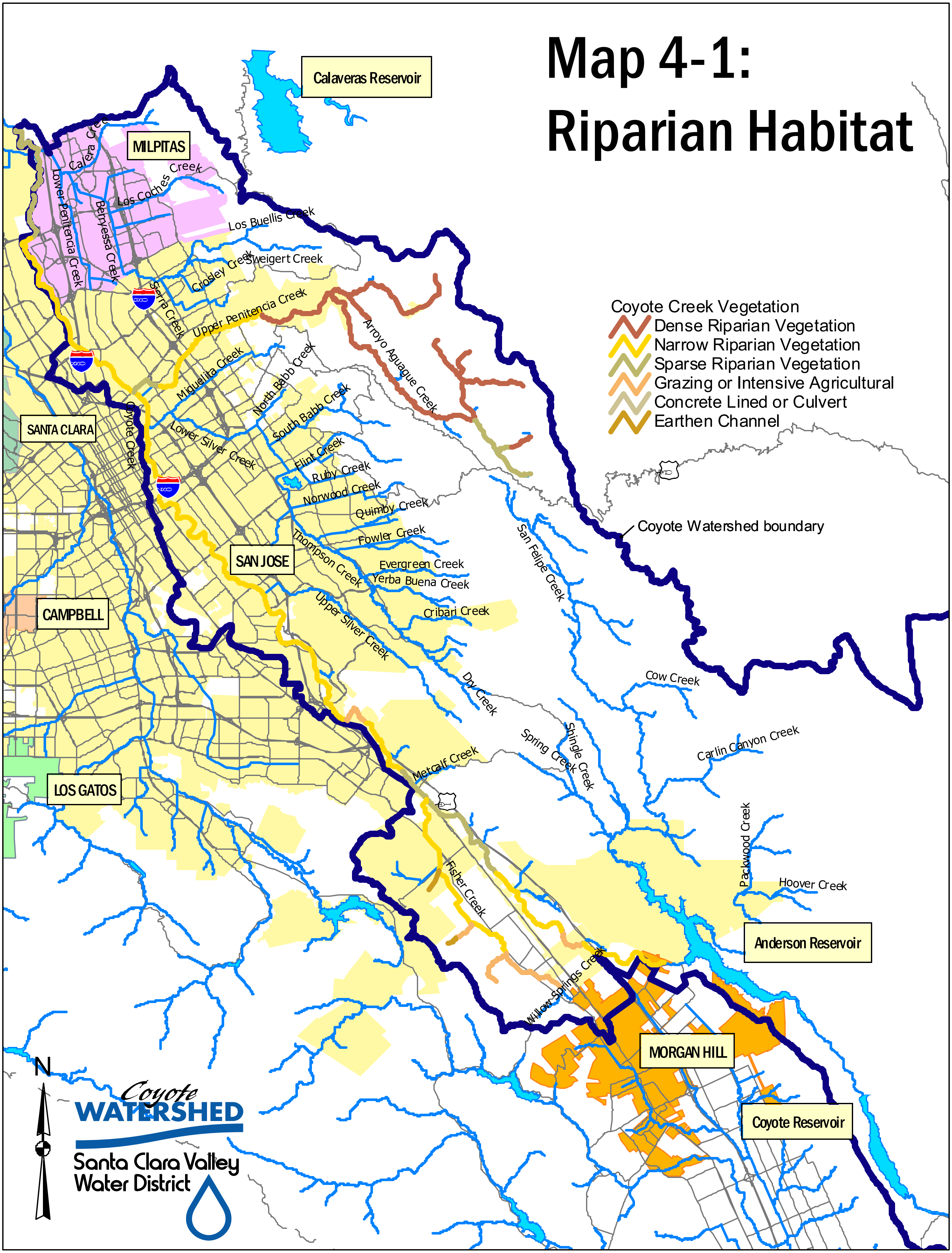
TABLE 4-6: SUMMARY OF CHAPTER 4 DATA GAPS

Section	Identified Data Gaps
Riparian Habitat	• HCP study completion • Baseline vegetation data for all Coyote Watershed Creeks except Coyote and Upper Penitencia • Positive identification of special status species present in watershed
Wetlands	• Potential future wetlands mitigation banking areas in the Coyote Watershed • Positive identification of special status species present in watershed • Maps are incomplete in that they do not show drainage to the San Francisco Bay • Quality of Coyote Watershed wetlands
Aquatic Habitat	• FAHCE study completion • HCP study completion • Positive identification of special status species present in watershed • Chinese mitten crab impact assessment • Quality of aquatic habitat
Grassland and Woodland Habitat	• The quality of the grassland and woodland areas in the watershed needs to be identified • Positive identification of special status species present in watershed
Invasive and Non-Native Species	• Positive identification of invasive and non-native species in watershed
Surface Water Quality	• Water quality characterization throughout Coyote Watershed • Future TMDL creek listings
Open Space	• Targeted Open space areas
Trails	• None identified

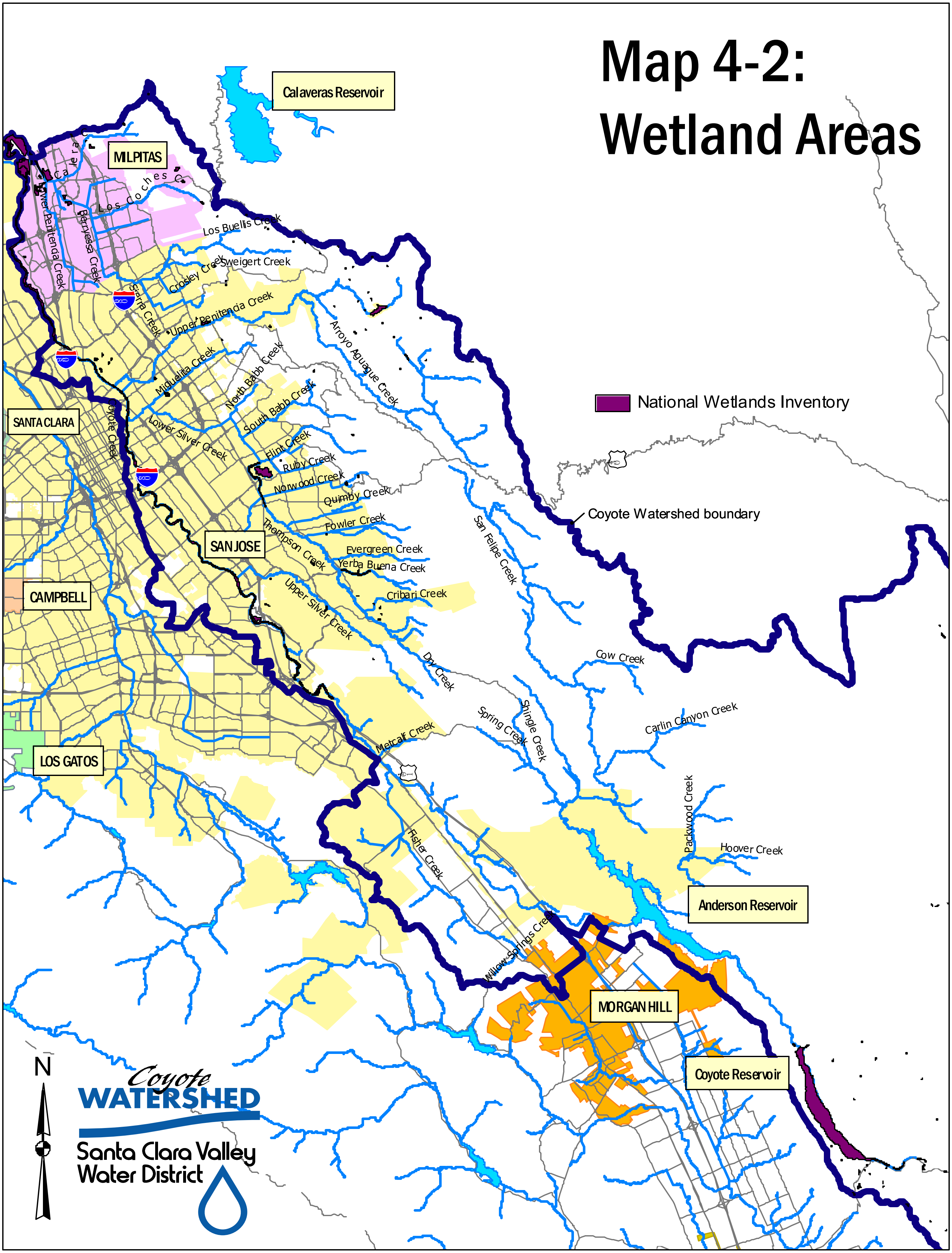
4.10 References

1. Association of Bay Area Governments, San Francisco Bay Trail Map – South Bay, 2000, http://www.abag.ca.gov.
2. City of Milpitas, Milpitas Trails Master Plan, March 1999.
3. City of San Jose, Riparian Restoration Action Plan – Draft, December 2000
4. City of San Jose, Riparian Restoration Action Plan – Public Draft, February 2000
5. Santa Clara County Open Space Authority, 5-Year Plan: 1996 – 2001, 1996.
6. Santa Clara County, Countywide Trail Master Plan, November 1995.
7. Santa Clara Valley Water District, GIS Database, Riparian Habitat.
8. Santa Clara Valley Water District, Final Environmental Impact Report for the Stream Maintenance Program, 2001
9. U.S. Fish and Wildlife Service, National Wetlands Inventory (NWI) Metadata, 1999
10. Marine Science Institute, Chinese Mitten Crab Monitoring, accessed online on Feb. 28, 2001 at http://www.sfbaymsi.org/mcrab.htm

Map 4-1: Riparian Habitat



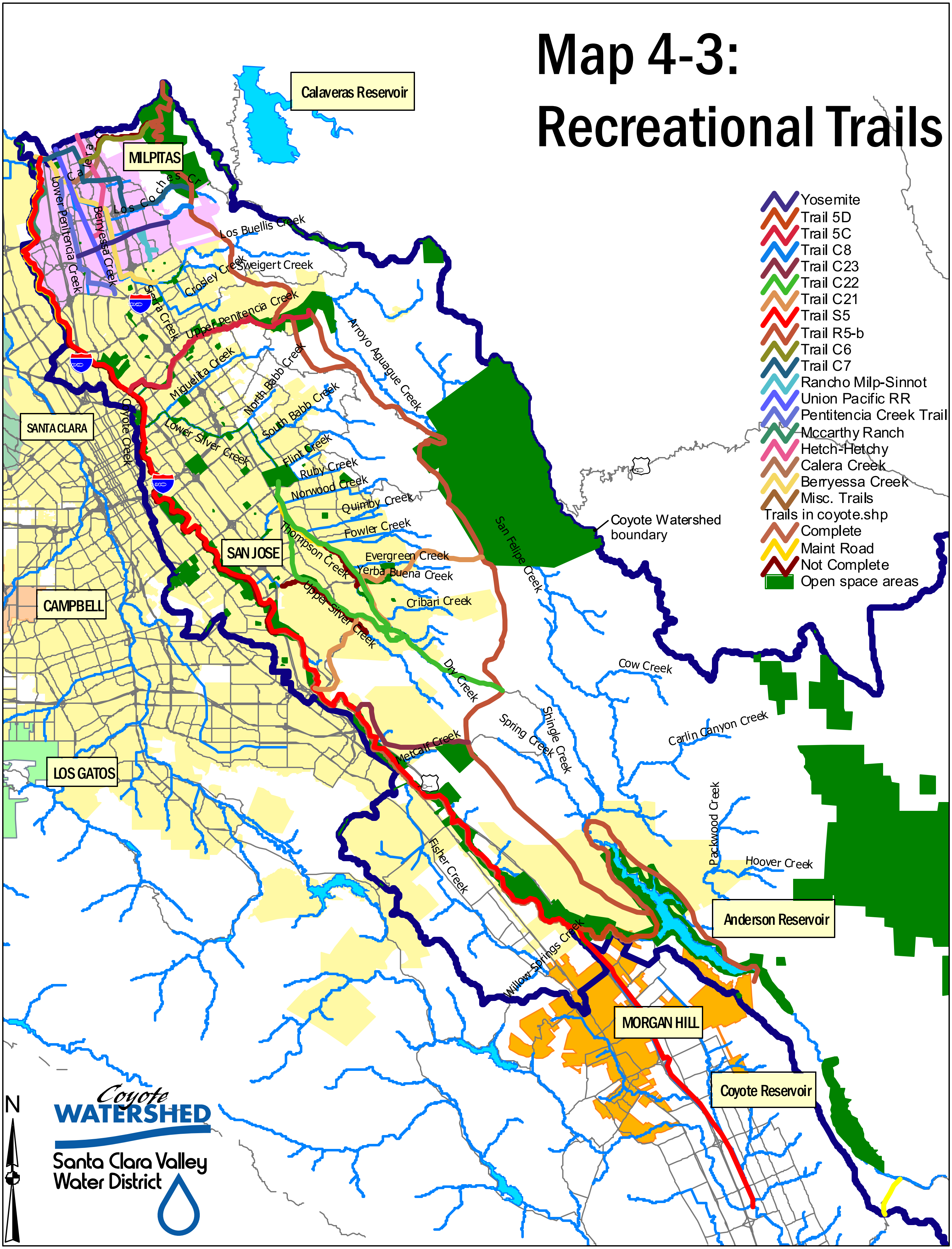
Map 4-2: Wetland Areas



Coyote WATERSHED

Santa Clara Valley Water District

Map 4-3: Recreational Trails



Chapter 5 District Policies

This chapter summarizes District policies related to general district functions, water supply, flood control, recreation, outreach, and stream maintenance. The chapter also briefly summarizes policies related to specific stream-related programs and concludes with a summary table. Unless otherwise noted, all of the policies listed below are detailed in the District's Engineering Policies and Procedures Manual (SCVWD, 1997).

5.1 General District Policies

General District policies address issues related to District boundaries, mission and goals, and organization and function. The general District policies are detailed in the District's Engineering Policies and Procedures (EPP) manual, and are summarized below.

5.1.1 District Act

The District was established through the Santa Clara Valley Water District Act (California Water Code, Chapter 60). The Act establishes the District as a flood control and water district for all of Santa Clara County and outlines the District authorities and responsibilities. The Act established the District boundaries and also outlines the structure, function, and operation of the District Board of Directors, as well as the other operating procedures for the District including adoptions of ordinances and resolutions.

The Act was most recently updated by SB449 during August 2001. The latest amendments make the following changes:

- Clarifies the district's ability to capitalize on the use of recycled water;
- Adds the responsibility of protecting the county from tidal flooding, and
- Reflects the "district's commitment to environmental stewardship throughout the county and provides (it) the authority to enhance, protect and restore streams, riparian corridors and natural resources.

5.1.2 District Organization and Functions

The organization and function of the District is outlined in Policy 1-110 of the District's EPP, "General Description of District Organization and Functions". The District is a local agency of the State of California created by an act of the State Legislature to provide specialized services. The Santa Clara Valley Water Conservation District and the Santa Clara County Flood Control

District merged in 1968 to form the District. Today, the District conserves, imports, treats, distributes, reclaims, and is responsible for the quality of water and flood control programs in most areas of Santa Clara County (County).

A seven member Board of Directors governs the District. Voters elect five of the Board members from each of the five supervisor districts, and two of the members are appointed to serve at-large by the County Board of Supervisors. The Board establishes policy on the District's mission, goals, and operations. It represents the general public in deciding issues related to water supply and flood control. The Board also has the authority to adopt ordinances that have the force of law within the District.

The Board reviews staff recommendations, decides which policies should be implemented in light of the District's mission and goals, and then monitors the implementation of the policies. The District's General Manager organizes the details of project implementation, while the Board supervises management to see that the work is accomplished on time and efficiently.

The Board of Directors has created eight advisory committees, which assist in developing policies to guide District operations. The committees are described in Table 5-1.

TABLE 5-1: BOARD OF DIRECTORS COMMITTEES

Committee	Role
Water Commission	Assists the Board in formulating policy on matters regarding the municipal and industrial water program
Agricultural Water Advisory Committee	Assists the Board in developing policy regarding water supply for agricultural uses
Landscape Advisory Committee	Assists the Board in developing landscape guidelines for water conservation
Flood Control Zone Advisory Committees (Five)	Prepares recommendations relative to the District's priorities and financing policies for flood control improvements within the zones.

The District is in the process of reviewing and updating the functions of some of these committees in response to its expanded authorities.

5.1.3 District Mission and Goals

The Mission, Goals, and Objectives of the District are outlined in the “District Mission, Goals, and Objectives Policy”. The mission of the Santa Clara Valley Water District is to conduct a sound water management program that serves the community. This Mission can be fulfilled though the accomplishment of the following goals:

- Provide a supply of water, adequate as to both quantity and quality, needed to meet the desired quality of life in the community.
- Provide protection against flooding in a manner that maintains the desired quality of life in the community.
- Coordinate all other community water-related programs to achieve full water management.

The goals are met though a series of Objectives that direct the activities of the District. The District Mission, Goals, and Objectives Policy was adopted by the Board on February 19, 1985 and is included as Policy 1-130 of the EPP Manual.

5.1.4 District Ends Policies

The Board, prior to taking action on particular issues, typically references the District's Ends Policies. These Ends Policies provide guidance to the CEO/GM and staff regarding the direction of District policy, and are typically the foundation for decision making by the Board. The Districts Ends Policies (SCVWD, Policy No. E-1, 2000) were adopted by the Board on November 21, 2000 and specifically identifies the following policies:

1. There is a healthy and safe environment for residents and visitors.
   - 1.1 There is a reliable supply of healthy, clean drinking water.
     - 1.1.1 The water supply meets or exceeds all applicable water quality regulatory standards in a cost-effective manner.
     - 1.1.2 The water supply is reliable to meet current demands.
     - 1.1.3 The water supply is reliable to meet future demands as identified in the District's Integrated Water Resource Plan (IWRP) process.
     - 1.1.4 There are a variety of water supply sources.
     - 1.1.5 The groundwater basins are aggressively protected from contamination and the threat of contamination.
     - 1.1.6 Water recycling is expanded consistent with the District's Integrated Water Resources Plan (IWRP).
       - 1.1.6.1 By the year 2010, water recycling accounts for five percent of total water supply in Santa Clara County.
       - 1.1.6.2 By the year 2020, water recycling accounts for ten percent of total water supply in Santa Clara County.
   - 1.2 There is reduced potential for flood damages.
     - 1.2.1 The cost of reducing the potential for flood damages is balanced with benefits (including possible environmental restoration and enhancement).
     - 1.2.2 There is a balance between the contributions of watersheds and steams in providing for public health and safety and in providing protection of natural resource benefits.
       - 1.2.2.1 Homes, schools, businesses, and transportation networks are protected from flooding and erosion.
       - 1.2.2.2 There is clean, safe water in our creeks and bays.

1.2.2.3 Groundwater supplies are sustained.

2. There is an enhanced quality of life in Santa Clara County.

2.1 Watersheds, streams, and the natural resources therein are protected and when appropriate enhanced or restored.

2.1.1 Healthy creek and bay ecosystems are protected, enhanced, or restored as determined appropriate by the Board.

2.1.1.1 Opportunities to enhance or restore natural resource benefits of streams and watersheds are identified.

2.1.1.2 Mitigation, enhancements, or restorations are implemented when determined appropriate by the Board.

2.2 There are additional open spaces, trails, and parks along creeks and in the watersheds when reasonable and appropriate.

5.2 Water Supply Policies

The District's water supply policies address water supply management, water quality preservation, reservoir operation, and well requirements. The water supply policies are contained in the EPP (SCVWD, Engineering Policies and Procedures, 1997).

5.2.1 Management of District Water Supplies

Management of District water supplies is outlined in Resolution No. 68-4, "Adopting and Declaring Policy to Govern Management of District Water Supplies". It is the goal of the District to manage its water supplies so as to provide an equal availability of water throughout the County so far as it is practical to do so. Resolution 68-4 was adopted by the Board of Directors on March 7, 1968 and is included as Policy 2-120 in the District's EPP.

5.2.2 Water Policy Consensus on Preserving Water Quality

Resolution No. 83-43 regarding water policy consensus outlines the District's position on preserving water quality. The District is largely dependent on imported water sources (see Chapter 6 for additional information). The Resolution states the District's support for the creation of an isolated Delta transfer system to improve and guarantee quality water from the Delta. The policy also states that the District supports protection of the local and imported surface water supply sources and endorses enactment of strict regulations to protect groundwater basins. The resolution was adopted by the Board on August 9, 1983 and is included in the District's EPP as Policy 2-130.

5.2.3 Service of Raw Surface Water

Resolution No. 74-28, “Adopting Rules and Regulations for the Service of Surface Water”, outlines the rules and regulations adopted by the District to control the service of raw surface water from its distribution facilities or reservoirs. The policy outlines regulations for the distribution of water, continuity of use, permitted diversions, fees and permits, maintenance and operations of District conduits, rights-of-way (ROWs), and unauthorized taking of water. The resolution was approved by the Board on April 2, 1974 and is included in the District’s EPP as Policy 2-310.

5.2.4 Reservoir Operational Procedures

The District operates two reservoirs in the Coyote Watershed: Anderson Reservoir and Coyote Reservoir. The operational procedures for these reservoirs are outlined in Policy 2-410 of the District’s EPP. The policy states that rule curves contained in the District’s 1982 report titled “Multipurpose Operational Analysis, Coyote and Anderson Reservoirs” serve as the basis for the allowable maximum combined storage in Anderson and Coyote Reservoirs.

The policy also states that both reservoirs are operated to provide water conservation, incidental flood control, and some recreation benefits and that the operation of these reservoirs should result in an optimization of these benefits. This requires that:

- Water conservation releases be made to meet consumptive water needs;
- Supplies of water be made available for irritation uses and for groundwater recharge;
- An incidental empty storage space be provided for flood control purposes; and
- Water levels are maintained as high as possible during the summer season for recreational uses.

5.2.5 Maintaining the Quality of District Source Water Supplies

The District’s position on protecting the quality of local water supplies is stated in policy 2-510 of the District’s EPP, “Maintaining the Quality of District Source Water Supplies”. The Board of Directors adopted this policy on October 16, 1973.

The policy states that it is the goal of the District to manage the water resources of the County so as to provide a healthful environment for its residents. Such management requires wise and efficient use of water and includes development of water resources in a manner compatible with protection of the natural environment. The policy states that the quality of water resources in the County must be protected against degradation by all reasonable means at the District’s disposal. The means of protection the quality of water resources include:

- Support of controlling standards on watershed development which could degrade water quality, and
- Adoption, application, and support of controlling standards upon the disposal of solid and liquid wastes, and urban development practices.

5.2.6 Wells

Ordinance No. 90-1 defines different types and categories of wells, requirements associated with well sealing and construction, requirements for the well permitting process, and procedures for wells that are considered to be a public hazard with regard to water quality. Ordinance 90-1 was adopted by the Board on May 24, 1990 and is included as Policy No. 2-520 in the District's EPP.

5.3 Flood Control Policies

The District's flood control policies address floodplain management, property acquisition, new development, design criteria, and the District's Flood Control Zone Advisory Committees. The flood control policies are detailed in the EPP (SCVWD, Engineering Policies and Procedures, 1997) and are summarized below.

5.3.1 Flood Protection Management Program

Through Resolution No. 79-77, the District encourages the use of floodplain management techniques for the District and other government agencies in the County. The floodplain management techniques listed in the resolution include:

- Adopting appropriate floodplain zoning ordinances,
- Establishing flood warning systems and flood preparedness plans,
- Advance planning by cities and the County of their respective road system, to be compatible with good floodplain management practices, and
- Meeting applicable requirements of the Federal Insurance Administration.

5.3.2 The One-Percent Flood

The District design standards are to protect lands from the one-percent flood, as outlined in Policy No. 3-214 of the District's EPP, "Santa Clara Valley Water District Definition of the One-Percent Flood". The policy defines the one-percent flood as "that flow of water from a drainage area that, on the average and over a long period of time, has a one percent chance (probability of 0.01) of being equaled or exceeded in any given year".

The policy also describes:

- The relationship between the one-percent flood and the one-percent storm,
- The cumulative risk of the one-percent flood,
- The relationship between the one-percent flood and the design flood,
- The definition of one-percent peak flows and one-percent volumes,
- The District's hydrology and the one-percent flood, and
- Factors affecting floods.

Maps of the location of the one-percent floodplain in the Coyote Watershed are located in Chapter 3.

5.3.3 District Design Flood

Policy No. 3-215 in the Engineering Policy and Procedures Manual, "Definition of District Design Flood", defines the level of flood protection for which the District will design its flood control projects. The Board approved the policy on January 28, 1974.

The policy states that District flood control facilities shall be designed to provide a standard level of protection throughout the County. The level of protection that has been selected, based on economic and legal considerations, is the flood that has a one percent chance of happening in any year (the one-percent flood).

5.3.4 Design Flows Manual

The District has a manual of one and ten percent flood flows that are used in the design of flood control facilities in Santa Clara County. The manual is updated at approximately 15-year intervals to incorporate changes in hydrologic records as more years of data are collected. The flows are based on the District's Hydrology Methodology that was developed and adopted in 1976, following review and approval by a panel of hydrology experts.

Policy No. 3-216 in the EPP, "Design Flood Flows Manual", states that the District Hydrology Section shall maintain and periodically update the design flood flow manual. The Flood Control planning and Design Divisions use this manual for designing flood control projects in the District's five flood control zones. This manual provides guidance to designers regarding the required conveyance capacity of flood control projects.

5.3.5 Voluntary Property Acquisition Program

The Voluntary Property Acquisition Program for Flood Hazard Mitigation is outlined in Policy No. 3-217 of the EPP. The program designed to remove high-risk property subject to repetitive flood damage.

The policy outlines the procedures for property acquisition under the Program and includes the following criteria established by the Board as a prerequisite to making a property purchase under the Program:

1. The Program is strictly voluntary for property owners.
2. The Program is strictly voluntary for the District.
3. Implementation of the Program is subject to Board approval on a case-by-case basis.
4. The Program applies only to residences that have any part of their structure located within the confining creek banks.
5. The Program applies only to residences that have been substantially damaged during a flood event.
6. The Program applies only to property owners who are willing to coordinate benefits from all agencies and sources so that the total amount received does not exceed the fair market value of the property prior to flooding.
7. The factors to be used in the case-by-case evaluation may include, but are not limited to: whether the property is identified for acquisition as part of a future capital improvement project; the potential for cost sharing on the part of local, state, or federal agencies; and the financial condition of the flood control zone.
8. The Program is only for residences which have been substantially damaged during a flood event, and which have been developed prior to the City’s adoption of floodplain management regulations, or have been developed in accordance with District recommendations during plan review prior to development or substantial remodeling.
9. In instances where development has occurred over the district’s objection or not following the District’s recommendations, the Board may consider partial funding of a purchase by another agency or purchase by the District with a matching grant from another agency on a basis approved by the Board.

5.3.6 Community Rating System

Both the City of San Jose and City of Milpitas begin participation in FEMA’s National Flood Insurance Program’s Community Rating System (CRS) in 1991 to provide a service to local residents and mechanism for obtaining reduced flood insurance premiums. The CRS was implemented in 1990 to recognize and encourage community floodplain management activities that exceed the minimum NFIP standards. The three primary goals of the CRS are to:

1. Reduce flood losses;

2. Facilitate accurate insurance rating; and
3. Promote the awareness of flood insurance.

Activities by local jurisdiction to implement these types of floodplain management activities will result in reduced flood insurance premiums for local residents. The City of Milpitas residents, through their participation in the program, receive a 25% discount off flood insurance premiums. City of San Jose residents receive a 15% discount. Further information about the CRS is available at http://www.fema.gov/nfip/crs.htm.

5.3.7 Engineering Guidelines for Establishing Freeboard

Policy 3-218 of the EPP outlines the guidelines for establishing freeboard. The policy states that the division engineer responsible for the preparation of the Engineer's Report for a project, or responsible for reviewing permit requests, shall be responsible for ensuring that the project provides the minimum freeboard defined in the policy. The Federal Emergency Management Agency (FEMA) has set guidelines for the determination of freeboard, and the policy states that projects must meet the FEMA guidelines as a minimum. The policy further defines freeboard design guidelines:

- Where the design water surface is above natural ground,
- Where the design water surface is below natural ground, and
- For bridges.

5.3.8 Enclosing Flood Control Channels

Enclosing flood control channels to construct culverts, pipes, and bridges has resulted in maintenance and carrying capacity problems. As a consequence, the District adopted the "Guideline Limiting the Construction of Enclosed Flood Control Channels" to limit the construction of covered flood control channels. The policy states that flood protection or other improvements that would fully or partially enclose and cover a natural creek will not be acceptable, except at road and railroad bridge crossings. The guideline is included as Policy 3-219 of the District's EPP.

5.3.9 Criteria for Prioritizing Flood Control Projects

In order to effectively manage flood control programs, the District prioritizes flood control projects in each flood zone according the prioritization criteria. Eight prioritization criteria for analyzing flood control projects were originally outlined in Policy 3-220 of the EPP and approved by the Board on October 2, 1979. The priority criteria were reviewed and updated by District staff and the Flood Control Advisory Committees in 1997, resulting in the addition of two new criteria (Criteria Nos. 9 and 10 of Table 5-2). The ten criteria were also reweighed. Staff's current approach to developing a prioritized list of candidate flood control projects is guided by the ten weighted criteria shown in Table 5-2. Each year, the weighted criteria are applied to each candidate project to arrive at a proposed relative ranking of projects for each zone. Staff then reviews the proposed ranking with the Flood Control Advisory Committees for each of the five flood control zones at least once each year prior to proposing the annual budget to the Board for consideration.

TABLE 5-2: FLOOD CONTROL PROJECT PRIORITIZATION CRITERIA

Criteria	Weight
1. Projects that will prevent the greatest potential flood damage	50%
2. Projects that protect against flooding of developed areas before undeveloped areas	7.6%
3. Construction of reaches of inadequate channel between previously improved reaches of the same channel	4.6%
4. Projects that provide for rehabilitation of previously constructed facilities over new construction.	7.0%
5. Projects that will protect from flooding areas of proposed development over areas where development is not proposed.	3.1%
6. Projects that provide adequate flood carrying capacity in downstream reaches first.	4.9%
7. Projects that improve capacity and stability of channels when such improvements will substantially reduce maintenance costs.	5.4%
8. Projects that include multipurpose use of District facilities.	5.5%
9. Projects that will reduce flood insurance costs.	6.0%
10. Projects that will protect historically flooded areas.	6.0%

In addition to this criteria, the recent passage of the Clean Safe Creeks and Natural Flood Protection measure provided funding for the design of two flood protection projects in the Coyote Watershed. These projects are located on Coyote Creek between Montague Expressway and Interstate 280, and Berryessa Creek. In addition to these projects, other projects in other watersheds will also be funded with Clean, Safe Creeks and Natural Flood Protection Program dollars. For a complete list of projects to be funded through this special tax, the reader is referred to http://www.scvwd.dst.ca.us/floodmgt/clean.html.

5.3.10 Flooding Induced by Development

Policy No. 3-225 of the District's EPP outlines the District's policy on flooding induced by development. The Board adopted the current policy on October 2, 1979.

The policy states that the District will inform the cities and the County of the effects of new development on flooding. Under the policy, the District shall urge that all developments comply with pertinent Federal Insurance Administration requirements. When upstream development may have an adverse flooding effect downstream, the District will suggest that upstream development install or provide mitigation measures. Mitigation measures can include on-site detention storage for stormwater runoff or improvement to downstream channels to prevent additional flooding. The Cities are currently working with FEMA's CRS to minimize the impact of development on local creeks.

5.3.11 Design of Bridge Soffits

The design of the bottom of bridges (soffits) is critical with regard to avoiding catchment of floating debris which add to flood hazards and hydraulic efficiency. As a result, the District adopted the "Guideline for the Design of Bridge Soffits". The Guideline is included as Policy 3-232 of the District's EPP. The policy states that bridge soffits shall be designed in all cases, by the District or other designers, such that the upstream and downstream edges exposed to the water surface have a streamlined shape that will not catch debris from passing flood waters. A circular radius is preferred.

5.3.12 Limiting Longitudinal Utility Encroachments in Waterways

Utility encroachments have historically caused operational problems to the District. As a result, the "Policy Against Longitudinal Encroachment in District Flood Control ROWs" was approved by the District to limit longitudinal utility encroachments. The policy is included as Policy 3-242 of the District's EPP. The policy states that unless otherwise approved, longitudinal encroachments of utilities, whether above ground or buried, shall not be permitted within District flood control ROWs.

5.3.13 Limiting Flood Control Measures that Rely on Human Intervention

Some flood control measures (i.e. sandbagging, reservoir releases) may rely on human intervention and operations plans before and during floods. To set a minimum standard for such temporary, nonstructural measures so that adequate operational reliability can be assured, the District adopted the "Guideline for Allowing Use of Flood Control Measures that Rely on Human Intervention or Operations Plan". The Guideline is included as Policy 3-250 of the District EPP. The policy states that proposals for flood prevention and/or flood damage reduction measures that require an operations plan or would rely upon human intervention prior to or during a flood will not be acceptable unless they meet, as a minimum, guidelines prepared by FEMA.

5.3.14 Flood Control Zone Advisory Committees

Flood Control Zone Advisory Committees are a link between the District Board and the public. The members of the Committees are appointed by the local jurisdiction and approved or appointed by the Board. Policy 3-260 of the District's EPP outlines the duties of these Committees that include:

- Review existing District policies regarding flood control activities and recommend changes to the Board of Directors. Recommend new policies where appropriate policies do not exist,
- Review flood control project activities and make recommendations to project staff,
- Review flood control project priority schedules and recommend changes to the staff,
- Review flood control budget and recommend changes to the staff, and
- Review and recommend alternative means of financing flood control activities.

5.4 Stream Maintenance Policies

The District has several policies that address stream maintenance issues. These policies are detailed in the District's EPP (SCVWD, Engineering Policies and Procedures, 1997) and are summarized below.

5.4.1 Ordinance 83-2

Ordinance 83-2 was adopted by the District to minimize the impact of development on streams, creeks, and reservoirs. The ordinance requires a project review and permitting process to minimize impacts to watercourses resulting from development or community activities. Anyone who plans a project or works within 50 feet of any watercourse must first obtain a permit from the District. The Community Projects Review Unit administers the ordinance. District Ordinance 83-2 is the main policy providing for stream maintenance and flood control in the District. The Ordinance addresses the following issues:

- Limits of flood control responsibility;
- Maintenance of watercourses;
- Joint use of projects;
- Pollution of District water supplies and injury to District projects, and encroachment upon watercourses;
- Penalties for violation of the terms outlined in the ordinance.

Additional information about Ordinance 83-2 can be found in Section 2.1.1.1.

5.4.2 Stream Maintenance Program

This section summarizes the policies included in the Stream Maintenance Program (SMP). These policies were developed by the District through the routine stream maintenance planning process to ensure that resources are protected to the furthest extent feasible during routine stream maintenance projects. The policies in the SMP have been developed to guide decision-making for stream maintenance projects. They are listed below. For details and justification of these policies, the reader is refered to the SMP document. This document is also available on-line at: http://www.scvwd.dst.ca.us/floodmgt/smp/smpdoc.htm#c4.

Policy 1: The District will process all routine stream maintenance activities according to the process and protocols established in Chapter 3 of the Stream Maintenance Program.

Policy 2: Decisions regarding the necessity of routine sediment removal and vegetation management activities (to restore channel flow capacities) will be made following the thresholds established in the Maintenance Guidelines. This information will be used to formulate in part an annual routine maintenance work plan.

Policy 3: The District will continue to develop, implement, and update BMPs for implementation of stream maintenance projects to ensure that maintenance activities are conducted in the most effective and environmentally-sensitive way possible and are technically feasible and economically reasonable.

Policy 4: The District will use the Stream Maintenance Program to manage its routine stream maintenance activities in a programmatic way, including BMPs and a mitigation program. The District will evaluate the environmental impact of the program in an EIR.

Policy 5: The District will implement measures to avoid and minimize impacts to native species, especially special-status and riparian-dependent species.

Policy 6: The District is committed to protecting fishery resources when technically feasible and economically reasonable when individual stream maintenance projects are implemented.

Policy 7: The District will take measures to reduce increases in short-term stream turbidity that can result from stream maintenance activities.

Policy 8: Vegetation control and removal will be minimized to the extent practicable. Where appropriate, measures will be taken to leave the work site in a vegetated condition after individual projects are implemented.

Policy 9: The District will avoid and minimize impacts to the quality and extent of riparian and Shaded Riverine Aquatic (SRA) habitat.

Policy 10: When wetlands must be removed or have the potential to be negatively affected in order to restore flood capacity, work will be limited to that defined by the Maintenance Guidelines.

Policy 11: The District's use of herbicides will be consistent with environmental goals, including protection, preservation, and restoration. Herbicides will be used such that negative effects to the environment are avoided or minimized.

Policy 12: The District will implement measures to ensure that hazardous materials are properly handled and the quality of water resources is protected by all reasonable means when removing sediments from the streams.

Policy 13: The temporary stockpiling, transportation, and disposal of removed sediments from stream maintenance projects shall be implemented as sensitively as possible, avoiding or minimizing impacts to the surrounding natural environment.

Policy 14: Stream maintenance projects shall be implemented as sensitively as possible, avoiding or minimizing the potential for short-term noise nuisances and short-term air quality impacts to the surrounding community.

Policy 15: Measures shall be implemented at the work site to ensure that the potential for significant impacts to previously undiscovered cultural resources are reduced to less-than-significant levels.

5.4.3 Fencing District Facilities

Fencing of District facilities in outlined in Policy 1-320 of the EPP. The policy provides guidelines for determining which facilities and ROWs should be fenced for security or safety purposes. It is the policy of the District to provide fencing around District facilities or on District property only where safety or security can be significantly enhanced or to control unauthorized vehicular use. The policy states that fencing natural creeks is generally unnecessary and is discouraged unless it is used as a barrier along clearly hazardous conditions (i.e. streams with steep banks or streams adjacent to a facility where small children may be present).

The District will contribute up to $7.50 per lineal feet of the actual cost of replacement or installation of wooden or chain link fencing along the boundary between District land and adjoining property. For more information about how to participate in this program, please contact the Community Projects Review Unit at (408) 265-2600 or via written letter to 5750 Almaden Expressway, San Jose, CA 95118.

5.4.4 Creekside Street Design

The District policy for creekside stream design is presented in a brochure (a.k.a. the “Green Brochure”) that is available to the public. The District’s Green Brochure and criteria for creekside street design was adopted in 1979 and updated and reprinted in June 2000.

The “Green Brochure” was prepared to try to eliminate the undesirable development practices creeks. These practices include locating a creek between backyards, minimizing linear parks or having back fences along a creek bank. Desirable development practices include utilizing cul-de-sacs or looped streets, public access, trails, parks and preserving habitat. A copy of the brochure is available for pickup at the District Headquarters Building, or by contacting the Community Projects Review Unit.

5.4.5 Revegetation Policy

The District's revegetation policy is outlined in Resolution No. 79-76, "Declaring Policy of Santa Clara Valley Water District Regarding Revegetation and Landscaping of District Facilities". The Board adopted the policy on September 18, 1974.

The Resolution includes the following revegetation and landscaping policies:

- A concerted effort shall be made to integrate existing vegetation and wildlife habitat in the design of District projects.
- The extent of revegetation work required to mitigate significant adverse impacts of a project will be consistent with the effects of the project on the environment with emphasis given to reestablishment of preproject riparian habitat.
- Revegetation shall be developed in cooperation with the cities and County where possible and efforts should be made to share revegetation project costs.
- Where the removal of a tree or significant riparian vegetation is required for essential maintenance, a reasonably mitigating replacement shall be made in the same area or neighborhood, where feasible.
- In general, any plantings installed at District projects shall be low maintenance, adapted to local climatic and soil conditions, and suitable for use under the situation imposed by the District project.
- Where appropriate on-site revegetation of a District project is not feasible, other mitigating activities will be considered.

5.4.6 Winter Construction Activities

District construction activities located in or adjacent to creeks, reservoirs, and other waterways have a high potential of creating extensive storm water pollution due to erosion during the winter months, when rainfall levels are the highest. The policy on winter construction activities is outlined in Procedure 1-803 of the District's EPP. The policy states that no construction work shall be performed in or around creeks, reservoirs, and other waterways between October 15 and April 30 of each year, where there is significant potential for stormwater pollution. The restriction does not apply to the maintenance or installation of storm water pollution control measures required to achieve permit compliance. The Engineer's Report shall identify the potential for storm water pollution during project construction and viable methods of achieving compliance with stormwater permits. The winter construction activities policy applies only to capital improvements projects overseen by the District's Construction Administration Unit and does not apply to projects overseen and/or performed by the Operations and Maintenance Group.

5.4.7 Non-District Sponsored Channel and / or Reservoir Clean-Up Programs

There are several instances each year when local groups express interest to the District in participating in a creek or reservoir clean-up program. The Board adopted the “Non-District Sponsored Channel and/or Reservoir Clean-Up Program Policy” on September 8, 1970 to encourage District support of such activities. The policy is included as Policy No. 3-320 in the District’s EPP.

The policy states that the District will cooperate with interested groups in clean-up programs in every way possible, even to the extent of providing District-owned trucks with District operators to haul away material collected at clean-up outings. District Ordinance 83-2 requires that a group or organization wanting to sponsor a clean-up activity first obtain a permit.

5.4.8 Use of District Lands for Mitigation or Restoration

Areas available for mitigation required as a result of District projects are limited. Consequently, potential mitigation sites have a high value. As a result the District adopted the “Guideline for Allowing Others to Use District Lands for Mitigation or Restoration”. The guideline is included as Policy 3-241 of the District’s EPP. The policy states that District-owned property shall not be available to any party for the purposes of mitigation or restoration on non-District projects unless there is a clearly demonstrated benefit to the District.

5.4.9 District Flood Control Maintenance of Private Property

The District policy on flood control maintenance of private property is included as Policy 3-330 of the EPP. The policy states that the District will not perform flood control maintenance wok on any facility where it does not have right of way for such facility. An exception to the policy is to provide needed maintenance work on an emergency basis.

5.4.10 Distinction between Levee Maintenance and Levee Construction

Policy 3-340 of the EPP provides a distinction between levee maintenance and levee construction. The policy defines levee construction as including work resulting in a levee that exceeds its original cross-sectional area or elevation or in a new levee being built in a new location. The policy defines levee maintenance as including all work required for the restoration of a deteriorated levee that does not significantly exceed its original cross-sectional area, elevation or change location.

5.4.11 Emergency Bank Erosion Repairs

Policy 3-350 of the EPP lists the considerations that need to be made before selecting an alternative to make emergency bank erosion repairs. The policy includes the following items that should be analyzed when considering which alternative to specify in an emergency erosion repair: accessibility, workability, aesthetics, time, and costs.

5.4.12 Flood Control Maintenance Road Criteria

Policy 3-410 of the District's EPP provides the standards for maintenance roads along flood control channels. The Board adopted the policy on October 31, 1972. The number and width requirements of maintenance roads along flood control channels vary according to the size of the facility and the type of flood control improvements that exist. The policy states that:

- Construction and maintenance of flood control facilities requires adequate access for heavy equipment and vehicles,
- Maintenance roads for channels must be coordinated with public trafficways and provide continuous access to all areas under District responsibility;
- Roadway widths must be sufficient to allow equipment travel and operations along the entire channel.

The policy also provides minimum criteria for the number of maintenance roads, widths of maintenance roads, and passing and turnaround areas for maintenance roads.

5.5 Recreation Policies

The District has several policies that address recreation, including policies on joint use of District facilities, parks and trail, use of vehicles on District property, and docking facilities on District property. The recreational policies are detailed in the Districts EPP (SCVWD, Engineering Policies and Procedures, 1997) and are summarized below.

5.5.1 Joint Public Use of District Facilities

Joint use policies are outlined in Resolution No. 74-38, “Declaring Policy Governing Joint Public Use of District Facilities”. The District encourages joint use of its facilities with some restrictions; namely that the District’s function and normal activities not be hindered, and that the agreement be entered into with another responsible agency that will assume responsibility and liability for non-District functions. The resolution was adopted by the Board on May 7, 1974 and is outlined in Policy 1-410 of the District’s EPP.

The policy states that joint use is favored with the following restrictions:

- Joint use shall not interfere with District use;
- The agency which proposing joint use will assume full responsibility for maintenance and policing of the use and full responsibility for damage or claim of damage resulting from use;
- The installation, maintenance and removal of improvements or structures necessary or convenient to the joint use shall be at the sole cost of the agency proposing the use;
- The agency proposing joint use will secure the comment and opinion of the adjacent property owners and of the affected community by public hearing.

5.5.2 Joint Use of Ground Water Facilities

The District’s policy on joint use of groundwater recharge facilities is outlined in Resolution 72-44, “Stating Policy on Santa Clara County Flood Control and Water District Regarding Recreational Uses of Groundwater Recharge Facilities”. The Resolution was adopted by the Board on June 13, 1972 and is included in the District’s EPP as Policy 1-415.

The Resolution includes the following District policies regarding recreational use of the District groundwater recharge facilities:

1. Compatible public recreational use of the lands adjacent to, and the water surface of, groundwater recharge facilities are favored.
2. Groundwater recharge facilities shall be operated and maintained as to permit joint use wherever feasible.

3. The provision of recreational structures, facilities and amenities and their maintenance for safety and sightlessness, together with the control of the recreational use, shall be the responsibility of an appropriate public agency by contract with the District.
4. The following activities are incompatible with the water conservation objective of the facilities and shall be prohibited:

   - Swimming and wading
   - Motor boating
   - Operation of motor vehicles or the presence of large animals within or immediately adjacent to the side slopes of the recharge basin.

5. District water supply revenues shall not be used to meet the cost of recreational uses such as on-shore facilities, fish stocking, public liability insurance, and policing and supervision.

5.5.3 Creek Park Chains

In February 1973, the City of San Jose prepared a report titled, “Report Recommendations on Floodplain and Flood Control Policies”. The report contained recommended policies on creek park chains that were adopted by the Board on May 22, 1973. The creek parkchain policies states that by utilization of floodplain concepts, the existing creeks that flow through San Jose offer an opportunity to develop a lineal city-wide park system. The creek parkchains policy is included as policy 1-420 of the District’s EPP.

5.5.4 District Endorsement of the Santa Clara County Trails and Pathways Plan

The Board endorsed the Santa Clara County Trails and Pathways Plan as embodied in the County’s 1982 “Regional Parks, Trails, and Scenic Highways” map. The Endorsement of Santa Clara County Trails and Pathways Plan is outlined in Policy 1-430 of the District’s EPP. The policy states that the Board endorses the “Trails and Pathways Plan for Santa Clara County” as it pertains to District facilities. The policy also clarifies the District position that it will design and build bridges and other projects to not preclude further development of trails and pathways, wherever feasible. Additional costs to comply with this policy, shall be at the sole cost of the agency proposing such joint use, consistent with Resolution No. 74-38.

5.5.5 Private Vehicles on District Property

For insurance reasons and for potential property damage considerations, no private motor vehicles are allowed on District lands. Policy 1-440 of the District’s EPP outlines the District policy on private vehicles on District property. The policy was approved by the General

Manager on August 1, 1977, and states that motor vehicles, including motorcycles, are not permitted on District property except on official business or where allowed by recreation departments of cooperating agencies.

5.5.6 Docks on District Lands

Resolution No. 70-95, “Declaring Policy in the Matter of Private Docking Facilities Upon District Waterfront Lands”, outlines the District policy on docks on District Lands. The District used to issue dock permits at several of its reservoirs, but began to phase out dock permits in 1970. The phase-out deadline of 1975 has been extended periodically, with the most recent phase-out date extension being approved on November 19, 1991. The policy outlines the requirements that must be met to maintain a dock permit.

5.5.7 Compatible Multipurpose Use of District Floodplains

Policy No. 3-240 in the District EPP, “Guideline for Permitting Multipurpose Use of District Floodplain ROWs” outlines the guidelines and policy for permitting multipurpose uses on ROWs. The District policy is to encourage multipurpose uses of floodplain ROWs as long as uses do not change, divert, or interfere with the District’s maintenance of the area, or deposit pollutants within the ROWs.

5.5.8 Public Acquisition of Lands for Watershed Protection

The District’s policy on acquiring lands for watershed protection is outlined in Resolution No. 98-85, “Endorsing the Public Acquisition of Lands for Watershed Protection” (SCVWD, Resolution No. 98-85, 1998). The policy states that the District supports and endorses the concept of acquiring watershed lands for the purpose of watershed protection. The Resolution was passed and adopted by the Board on November 3, 1998.

5.6 Outreach Policies

District outreach activities are conducted by the Office of Public Affairs and through a Public Information Office and Local Government Office. The Office of Public Affairs focuses on local government relations, community meetings, public hearings, and the Public Information Office conducts community outreach related to the flood protection, water quality and supply, and stream stewardship programs. Currently, the District does not have formal outreach policies, rather the Public Information Office staff works with District staff to produce project specific outreach materials. However, draft outreach policies are being developed and are anticipated to be finalized in spring or summer of 2001.

The Public Information Office helps conduct several ongoing outreach programs, including:

- Flood Awareness Program to meet the communication needs of the District's county wide flood management responsibilities
- Water Supply/Awareness Program designed to raise the community's awareness and understanding of local water quality and supply issues.
- School Program to conduct environmental education to school-aged children throughout the County. The program includes classroom presentations, facility tours, and water education materials.
- Environmental Stewardship Program to encourage environmental stewardship through management of countywide creek cleanups and Adopt-A-Creek programs.
- Creek Connections Action Group with SCVURPPP for two national cleanup days
- Adopt-a-Creek

5.7 District Policies Impacting Stream-Related Programs and Projects

The District is involved with several stream-related programs and projects. Below is a brief description of the stream related programs and the District policies and procedures impacting the program.

5.7.1 Stream Maintenance Program Policies & Procedures

The Stream Maintenance Program will provide long-term guidance to the District to effectively implement routine stream maintenance projects in a cost-effective and environmentally sensitive manner. The Stream Maintenance Program is a process and policy document that will be adopted by the District and used in obtaining long-term permits for routine stream maintenance activities from regulatory agencies. The following District policies and procedures impact the Stream Maintenance Program.

General Policies

- District Act
- District Mission and Goals and Objectives Policy
- District Ends Policy
- Resolution No. 98-85: Endorsing the Public Acquisition of Lands for Watershed Protection

Stream Maintenance Policies

- Ordinance 83-2
- Guideline Establishing which District Facilities to Fence
- Creative Creek Street Design Policy
- Resolution No. 79-76: District Policy on Revegetation and Landscaping
- Stream Maintenance Program
- Winter Construction Activities
- Non-District Sponsored Channel and/or Reservoir Clean-Up Programs
- Flood Control Maintenance of Private Property
- Distinction between Levee Maintenance and Levee Construction
- Emergency Bank Erosion Repairs
- Criteria for Construction and Maintenance of Flood Control Maintenance Roads

Recreation Policies

- Resolution No. 74-38: District Policy Governing Joint Public Use
- Resolution No. 72-44: District Policy Regarding Recreational Use of Groundwater Recharge Facilities
- Recommended Creek Parkchain Policies

- District Endorsement of Santa Clara County Trails and Pathways Plan
- Resolution No. 70-95: Declaring Policy in the Matter of Private Docking Facilities Upon District Waterfront Lands
- Guideline for Permitting Multipurpose Use of District Floodplain ROWs

5.7.2 Habitat Conservation Plan Policies & Procedures

The Multispecies Habitat Conservation Plan project will develop a Habitat Conservation Plan (HCP) to meet requirements of the Federal Endangered Species Act. The HCP will comply with federal laws, and will streamline District permitting processes by eliminating individual "*take*" permit applications. Several District policies and procedures impact the HCP, as outlined below.

General Policies

- District Act
- District Ends Policy

Stream Maintenance Policies

- Resolution No. 79-76: District Policy on Revegetation and Landscaping
- Stream Maintenance Program

5.7.3 Wetlands Mitigation Project Policies & Procedures

The Maintenance Wetlands Mitigation Project complies with the existing and anticipated compensatory wetland mitigation permit and CEQA requirements for the 1997, 1998, and future maintenance work. The project involves the identification, design, and implementation of compensatory mitigation for District impacts to instream wetlands. Several District policies and procedures impact the project, as outlined below.

General Policies

- District Act
- District Ends Policy
- Resolution No. 98-85: Endorsing the Public Acquisition of Lands for Watershed Protection

Stream Maintenance Policies

- Ordinance 83-2
- Resolution No. 79-76: District Policy on Revegetation and Landscaping
- Guideline for Allowing Others to Use District Lands for Mitigation or Restoration
- Stream Maintenance Program

5.7.4 Natural Resource Management Program Policies & Procedures

The Natural Resource Management Program will inventory, monitor, and assess natural resources associated with District activities and apply management prescriptions in support of integrated water resources management. The program will provide empirical information necessary to manage healthy water resources and streamline the environmental review process. The result will be timelier implementation of District projects and consistent and rigorous environmental determinations. The following District policies and procedures impact the Natural Resource Management Program.

General Policies

- District Act
- District Mission, Goals, and Objectives
- District Ends Policy
- Resolution No. 98-85: Endorsing the Public Acquisition of Lands for Watershed Protection

Stream Maintenance Policies

- Ordinance 83-2
- Resolution No. 79-76: District Policy on Revegetation and Landscaping
- Guideline for Allowing Others to Use District Lands for Mitigation or Restoration
- Stream Maintenance Program

5.7.5 Clean Safe Creeks and Natural Flood Protection

The mission of the Clean Safe Creeks and Natural Flood Protection (CSCNFP) program is to develop and implement a comprehensive flood protection and stream stewardship program supported by the community, and to secure the funding necessary for program implementation. This project seeks to expand flood protection goals into a larger stream management program. The CSCNFP is district-wide, with each of the five watersheds containing site-specific flood protection and stream stewardship projects. The District's CSCNFP, a ballot measure approved in November 2000, will provide funding for programs and projects aimed at achieving the following goals relating to the Comprehensive Flood Management Program:

- Flood and erosion protection for homes, schools, businesses and highways;
- Clean, safe water in creeks and bays;
- Healthy creeks and bay ecosystems;
- Trails, parks, and open space along creeks.

The following District policies and procedures affect the Comprehensive Flood Management Program and Clean, Safe Creek and Natural Flood Protection Program:

General Policies

- District Act
- District Mission, Goals, and Objectives
- District Ends Policy
- Resolution No. 98-85: Endorsing the Public Acquisition of Lands for Watershed Protection

Flood Control Policies

- Resolution No. 79-77: Adopting a Floodplain Management Program
- District Definition of the One-Percent Flood
- Definition of District Design Flood
- District Design Flows Manual
- Voluntary Property Acquisition Program for Flood Hazard Mitigation
- Engineering Guidelines Establishing Freeboard
- Criteria Guideline Limiting the Construction of Enclosed Flood Control Channels
- Criteria for Prioritizing Flood Control Projects
- Flooding Induced by Development
- Guideline for the Design of Bridge Soffits
- Guideline for Allowing the Use of Flood Control Measures that Rely Upon Human Interventions or Operations Plans
- Makeup and Duties of the Flood Control Zone Advisory Committees

Stream Maintenance Policies

- Ordinance 83-2
- Resolution No. 79-76: District Policy on Revegetation and Landscaping
- District Flood Control Maintenance of Private Property
- Distinction between Levee Maintenance and Levee Construction
- Stream Maintenance Program
- Emergency Bank Erosion Repairs

Recreation Policies

- Guideline for Permitting Multipurpose Use of District Floodplain ROWs

5.7.6 Nonpoint Source Pollution Prevention Program

The District’s Nonpoint Source Pollution Prevention Program (NPS Program) is comprised of: (1) “Area-wide” activities performed collaboratively with 14 other agencies in northern Santa Clara County under the Santa Clara Valley Urban Runoff Pollution Prevention Program and, (2) District-specific activities performed uniquely by the District for its own operations within its own jurisdiction. The purpose of the project is to protect aquatic habitat, recreational water uses, and local water supply by preventing pollution of storm water runoff. The following District policies and procedures impact the Nonpoint Source Pollution Prevention Program.

General Policies

- District Ends Policy

Water Supply Policies

- Resolution No. 83-43 Regarding Water Policy Consensus
- Maintaining the Quality of District Water Supplies

Stream Maintenance Policies

- Ordinance 83-2
- Winter Construction Activities Policy

5.7.7 Santa Clara Basin Watershed Management Initiative

The mission of the Watershed Management Initiative (WMI) is to protect and enhance the watershed, creating a sustainable future for the community and the environment. The participants will work toward the development and implementation of an integrated watershed management approach to address water pollution and improve the condition of the basin. The WMI includes watersheds that drain into San Francisco Bay south of the Dumbarton Narrows. The following District policies and procedures impact the WMI:

General Policies

- District Mission, Goals and Objectives Policy
- District Ends Policy
- Resolution No. 98-85: Endorsing the Public Acquisition of Lands for Watershed Protection

Water Supply Policies

- Operational Procedures for Anderson and Coyote Reservoirs
- Maintaining the Quality of District Source Water Supplies

Flood Control Policies

- Resolution No. 79-77: Adopting a Floodplain Management Program
- Criteria for Prioritizing Flood Control Projects
- Flood Induced by Development

Stream Maintenance Policies

- Ordinance 83-3
- Creative Creek Street Design
- Resolution No. 79-76: District Policy on Revegetation and Landscaping
- Winter Construction Activities
- Stream Maintenance Program
- Non-District Sponsored Channel and/or Reservoir Clean-Up Programs

5.8 Summary

The following table summarizes the policies included in Chapter 5.

TABLE 5-2: SUMMARY OF DISTRICT POLICIES AND PROCEDURES

District Policy	Policy Ref. #	Enact Date	Target Activities	Authority
General Policies				
District Act	EPP Policy 1-120; Ch. 60 of CA Water Resources Code	1951, updated periodically	District authorities and responsibilities	Establishes the District as a flood control and water district; establishes District boundaries; outlines structure, function, and operation of the Board of Directors; outlines other District operating procedures.
General Description of District Organization and Functions	EEP Policy 1-110 of EPP		District organization and functions	Provides overview of District organization and functions; contains information about the structure and function of the District Board of Directors.
District Mission, Goals, and Objectives	EEP Policy 1-130	February 19, 1985	Mission, Goals and Objectives	Adopts a statement of District mission, goals, and objectives to guide District programs and activities. Policy states the District's mission as "to conduct a sound water management program that serves the community".
District Ends Policy	Policy No. E-1	November 21, 2000	Ends policy	The Ends Policy outlines the Districts policy on accomplishing the following: • A healthy safe environment for residents and visitors • There is reduced potential for flood damages • There is an enhanced quality of life in Santa Clara County • There are additional open spaces, trails and parks along creeks and in the watersheds where reasonable and appropriate.

District Policy	Policy Ref. #	Enact Date	Target Activities	Authority
Resolution No. 98-85: Endorsing the Public Acquisition of Lands for Watershed Protection	Resolution No. 98-85	November 3, 1998	Watershed Protection	The Resolution states that the District supports and endorses the concept of acquiring watershed lands for the purposes of watershed protection.
Water Supply Policies				
Resolution No. 68-4: Management of District Water Supplies	EPP Policy 2-120	March 7, 1968	Water supply and management	Governs the management of District water supplies to provide equal availability of water throughout the County.
Resolution No. 83-43 Regarding Water Policy Consensus	EEP Policy 2-130	August 9, 1983	Imported supply water quality	Policy states the District's support of an isolated Delta transfer system to improve and guarantee the quality of water from the Delta. The policy also states that the District supports protection of the local and imported surface water supply and endorses enactment of strict regulations to protect groundwater basins.
Resolution No. 74-28, Adopting Rules and Regulations for the Service of Surface Water	EPP Policy 2-310	April 2, 1974	Service of surface water	The policy outlines the rules and regulations adopted by the District to control the service of raw surface water from its transportation facilities or reservoirs.
Operational Procedures for Anderson and Coyote Reservoirs	EPP Policy 2-410		Reservoir operations	Policy lists operational criteria and procedures to optimize water conservation, incidental flood control, and recreational benefits of Anderson and Coyote reservoirs.
Maintaining the Quality of District Source Water Supplies	EPP Policy 2-510	October 16, 1973	Local supply water quality	The policy states that it is the goal of the District to manage the water resources of the County so as to provide a healthful environment for its residents. The policy states that the quality of water resources in the County must be protected against degradation by all reasonable means at the District's disposal.

District Policy	Policy Ref. #	Enact Date	Target Activities	Authority
Ordinance No. 90-1	EPP Policy 2-520	May 24, 1990	Wells	Ordinance defines different types and categories of wells, requirements associated with well sealing and construction, well permitting process, and procedures for wells that present a hazard to water quality.
Flood Control Policies				
Resolution No. 79-77: Adopting a Floodplain Management Program and Rescinding Resolution No. 72-59	EPP Policy 3-210	September 25, 1979	Floodplain management	Policy adopts Flood Plain Management Program. Through the resolution, the District encourages use of floodplain management techniques for District and other government agencies in the County
Santa Clara County Definition of the One-Percent Flood	EPP Policy 3-214	March 21, 1991	One-percent flood	Policy defines the level of flood protection for which District will design flood control facilities to be the flood that has a one-percent chance of happening during any given year.
Definition of District Design Flood	EPP Policy 3-215	January 28, 1974	Flood protection	The policy defines the level of flood protection for which the District will design flood control facilities as the flood that has the one-percent chance of happening any year.
Design Flood Flows Manual	EPP Policy 3-216	Manual adopted 1976	Flood control design	Policy states that the District's hydrology section shall maintain the design flood flow manual and update it periodically. The manual should be used for designing flood control projects in the District.
Criteria and Procedure for Voluntary Property Acquisition Program for Flood Hazard Mitigation	EPP Policy 3-217	February 25, 1997	Property acquisition	Policy establishes nine criteria for property purchase under the acquisition program and the procedure required for property acquisition.
Community Rating System	NA	1991	Flood Insurance	Participation in the CRS and local jurisdiction's implementation of CRS goals provides for reduced flood insurance premiums for impacted residents.

District Policy	Policy Ref. #	Enact Date	Target Activities	Authority
Engineering Guidelines for Establishing Freeboard	EPP Policy 3-218		Flood protection	Policy outlines the District's policy for establishing freeboard. Under the policy, established FEMA guidelines are considered a minimum. Policy includes criteria for freeboard when design water surface is above natural ground, when design water surface is below natural ground, and for bridges.
Guideline Limiting the Construction of Enclosed Flood Control Channels	EPP Policy 3-219		Flood protection	The policy prohibits improvements that would fully or partially enclose and cover natural creeks, except at road and railroad bridge crossings.
Criteria for Prioritizing Flood Control Projects	EPP Policy 3-220	October 2, 1979	Flood control projects	Outlines procedure to establish priorities for study and implementation of flood control projects. The eight priorities are included in the policy.
Flooding Induced by Development	EPP Policy 3-225	October 2, 1979	Flood protection, new development	Policy states that the District shall inform cities and the County of the effects of new development on flooding and urge that new development comply with Federal Insurance Administration requirements. When upstream development may have an adverse flooding effect downstream, the District will suggest to the city/County that upstream development install or provide mitigation measures such as on-site storage of runoff or improvement to downstream channels.
Guideline for the Design of Bridge Soffits	EPP Policy 3-232		Flood protection	The policy requires that bridge soffits be designed such that the upstream and downstream edges exposed to the water surface have a streamlined shape that will not catch debris from passing flood waters.
Policy Against Longitudinal Encroachment in District Flood Control ROWs	EPP Procedure 3-242		Flood protection	Policy states that, unless otherwise approved, longitudinal encroachments of aboveground or buried utilities shall not be permitted within District flood control ROWs.

District Policy	Policy Ref. #	Enact Date	Target Activities	Authority
Guideline for Allowing Use of Flood Control Measures that Rely Upon Human Intervention or Operations Plans	EPP Procedure 3-250		Flood protection	The policy states that flood control measures that require operations plans or rely on human intervention prior to or during a flood will not be acceptable unless they meet guidelines prepared by FEMA.
Makeup and Duties of the Flood Control Zone Advisory Committees	EPP Policy 3-260	March 23, 1976	Flood control advisory committees	Policy defines make up of the advisory committees as composed of representatives of each city in the Zone, the County, and the unincorporated area where it exceeds 25 percent of the flood zone. The Policy also outlines five duties of the Committees.
Stream Maintenance Policies				
Ordinance 83-2, As Amended 10/22/85	EPP Policy 1-310	October 22, 1985	Stream maintenance; flood protection	The ordinance requires a project review and permitting process to minimize impacts to watercourses resulting from development or community activities. Anyone who plans a project or works within 50 feet of any watercourse must first obtain a permit from the District. The Community Projects Review Unit administers the ordinance. District Ordinance 83-2 is the main policy providing for stream maintenance and flood control in the District.
Guideline Establishing Which District Facilities to Fence	EPP Policy 1-320		Fencing requirements	Policy states that fencing is discouraged around natural creeks. Fencing is required only where it will enhance safety or security, such as around creeks with steep banks or streams adjacent to facilities where small children are present.
Creekside Street Design	EPP Policy 1-330	March 13, 1979, updated 1985 and 2000	Creeks, residential developments	Policy adopts the Creekside Street Design brochure and criteria for creekside street design.

District Policy	Policy Ref. #	Enact Date	Target Activities	Authority
Resolution No. 79-76: Declaring Policy of Santa Clara Valley Water District Regarding Revegetation and Landscaping of District Facilities	EPP Policy 1-650	September 18, 1974	Revegetation, stream maintenance	Policy states that the District will revegetate its projects for project mitigation as outlined in the Resolution.
Winter Construction Activities	EEP Procedures 1-803		Construction activities, stream protection	Policy states that no capital improvement project construction work will be performed in or around creeks, reservoirs, and other waterways between October 15 and April 30 of each year.
Non-District Sponsored Channel and/or Reservoir Clean-Up Programs	EPP Policy 3-320	September 8, 1970	Channel/reservoir clean-up	Policy states that the District will cooperate with interested groups in clean-up programs in every way possible, even to the extent of providing District-owned trucks with District operators to haul away material collected at clean-up activities.
Guideline for Allowing Others to Use District Lands for Mitigation or Restoration	EPP Procedure 3-241		Mitigation	The policy states that District-owned property shall not be available to any party for the purposes of mitigation or restoration on non-District projects unless there is a clearly demonstrated benefit to the District.
District Flood Control Maintenance of Private Property	EPP Policy 3-330		Flood control, maintenance	The policy states that the District will not perform flood control maintenance wok on any facility where it does not have right of way for such facility. An exception to the policy is to provide needed maintenance work on an emergency basis.

District Policy	Policy Ref. #	Enact Date	Target Activities	Authority
Distinction between Levee Maintenance and Levee Construction	EPP Policy 3-340		Levees	The policy defines levee construction as work resulting in a levee that exceeds its original cross-sectional area or elevation or in a new levee being built in a new location. The policy defines levee maintenance as all work required for the restoration of a deteriorated levee that does not significantly exceed its original cross-sectional area, elevation or change location.
Emergency Bank Erosion Repairs	EPP Policy 3-350		Bank erosion repairs	The policy defines accessibility, workability, aesthetics, time, and costs as items that should be analyzed when considering which alternative to specify in an emergency erosion repair.
Criteria for Construction and Maintenance of Flood Control Maintenance Roads	EPP Policy 3-410	October 31, 1972	Flood control maintenance roads	The policy also provides standards for maintenance roads along flood control channels, minimum criteria for the number of maintenance roads and widths of maintenance roads, and passing and turnaround areas for maintenance roads.
Recreation Policies				
Resolution No. 74-38: Declaring Policy Governing Joint Public Use of District Facilities	EPP Policy 1-410	May 7, 1974	Joint use	The policy states that the District encourages joint use of its facilities with some restrictions; namely that the District's function and normal activities not be hindered, and that the agreement be entered into with another responsible agency that will assume responsibility and liability for non-District functions.
Resolution No. 72-44: Stating Policy of Santa Clara County Flood Control and Water District Regarding Recreation Uses of Groundwater Recharge Facilities	EPP Policy 1-415	June 13, 1972	Joint use	The Resolution District policies regarding recreational use of the District groundwater recharge facilities.

District Policy	Policy Ref. #	Enact Date	Target Activities	Authority
City of San Jose "Recommended Creek Parkchain Policies"	EPP Policy 1-420	May 22, 1973	Creek parkchains	Policy adopts the City of San Jose's Creek Parkchain Recommendations that encourage joint use.
District Endorsement of Santa Clara County Trails and Pathways Plan	EPP Policy 1-430	January 15, 1985	Trails and pathways	Policy outlines the District's endorsement of the Santa Clara County Trails and Pathways Plan. The policy also states the District will design and build its bridges and other projects wherever reasonable so as not to preclude further development of trails and pathways.
Private Vehicles on District Property	EPP 1-440	August 1, 1977	Private vehicles on District property	Policy states the motor vehicles, including motor cycles, are not permitted on District property except on official business or where allowed by recreation departments of cooperating agencies.
Resolution No. 70-95: Declaring Policy in the Matter of Private Docking Facilities Upon District Waterfront Lands	EPP 1-450	November 19, 1991	Private docks on District property	The District used to issue dock permits at several of its reservoirs, but began to phase out dock permits in 1970. The phase-out deadline of 1975 has been extended periodically, with the most recent phase-out date extension being approved on November 19,1991. The policy outlines the requirements that must be met to maintain a dock permit.
Guideline for Permitting Multipurpose Use of District Floodplain ROWs	EPP Procedure 3-240		Joint use	The District policy is to encourage multipurpose uses of floodplain ROWs as long as uses do not change, divert, or interfere with the District's maintenance of the area, or deposit pollutants within the ROWs.

Outreach Policies

The District currently has no formal outreach policies. Draft outreach policies are expected to be finalized in spring/summer 2001. Currently, the Public Affairs Office and Public Information Office conduct outreach activities as required for District projects. The Public Information Office is also involved in on-going public outreach programs.

5.9 References

1. SCVWD, Engineering Policies and Procedures Manual, December 1997.

2. SCVWD, Ends Policies, Policy No. E-1, October 1999.

3. SCVWD, Resolution No. 98-85: Endorsing the Public Acquisition of Lands for Watershed Protection, November 1998.

Chapter 6 District Operations and Maintenance Activities

The objective of Chapter 6 is to summarize four major, ongoing District Operations and Maintenance (O & M) activities. O & M activities generally involve the ongoing performance of District functions rather than one-time modifications. Activities presented in this chapter include:

- Water supply planning and operations;
- Stream maintenance;
- Water quality protection; and
- Santa Clara Valley Urban Runoff Pollution Prevention Program.

Chapter 6 is intended to provide background information prior to identifying interrelationships between ongoing activities and project-specific modifications in the watershed (see Chapter 11). Subsequently, information on interrelated activities will be used to assist in the identification of candidate revisions to District O & M procedures that would aid in improving the ecological health and the quality of life in the watershed will be included in Chapter 11.

This chapter will summarize existing District water supply facilities, the Stream Maintenance Program, and District Water quality protection measures.

6.1 Water Supply Planning and Operations

The first portion of Chapter 6 describes the District's water use and supply, followed by its approach to ensuring sufficient quantities of clean, safe water through implementation of its Integrated Water Resources Plan (IWRP). This text is followed by information on how the District's existing water supply, treatment, and distribution facilities operate. Existing facilities, including local reservoirs, the groundwater basin, imported supply facilities, raw water conveyance facilities, and the water treatment and distribution system, are described. Information on the District's water supply planning and operations was summarized from four recent District sources:

- Integrated Water Resources Plan, June 1999;
- Urban Water Management Plan – Draft, January 2001;
- Water Utility Enterprise Report (Preliminary), April 2001; and
- Water Supply and Distribution Facilities, July 1998.

Unlike watershed-specific flood protection, water supply and planning activities depend upon the availability of water supplies and facilities located throughout northern California. The delivery of potable water to District customers throughout the County involves an integrated network of water supply, treatment and distribution facilities that routinely move water across watershed and basin boundaries.

Water supply planning, including current preparation of the IWRP 2001 Update, is conducted by the Water Supply Management Division. There are six units within this division, which are as follows:

- Water Supply Management Division Manager;
- Imported Water Unit;
- Underground Storage Tank Program Unit;
- Water Use Efficiency Unit;
- Operations Planning and Analysis Unit;
- Groundwater Management Unit;

Water supply operations are managed by the District's Water Utility Operations Division, which oversees the operation of existing treatment plants, reservoirs, pipelines, groundwater recharge and other facilities. Within the Division are eight units, which include:

- Water Utility Operations Division Manager;
- Water Quality Unit;
- Laboratory Services Unit;
- Utility Planning & Design Unit;
- Utility Maintenance Unit;
- Utility Operations Unit;
- Water Measurement Unit; and
- Utility Special Programs Unit.

6.1.1 District Long-Term Water Use and Supply

Water use in Santa Clara County is categorized as either agricultural or municipal and industrial (M&I). Recorded fiscal year North County water use since 1964-65 and South County water use since 1987-88 (when the District merged with Gavilan Water Conservation District) indicates steadily increasing M&I use with decreasing agricultural use. Total actual water demand was 373,400 acre-feet per year (AFY) in 1999, with an estimated water demand of 389,900 AFY for 2000 and projected water demand of 389,300 AFY for 2001 (Water Utility Enterprise Report, April 2001).

Water use in North County, as shown in Figure 6-1, is predominantly M&I. Current projections indicate an increase in M&I use through 2020, when the total North County annual water use is projected to be 378,000 AFY. Agricultural water use is expected to be less than 1,000 AFY by the year 2020 in North County. This is less than 1%of the total North County water use.

The projected water usage for the County is 463,000 AFY in 2020. This represents the expected outcome of many factors, including population trends, employment growth, water conservation practices, and plumbing code changes. Alternative circumstances could lead to total County water needs ranging from as low as 415,000 AFY to as high as 490,000 AFY in 2020. The lower end of this range is based on a projection of 1991 water use data, which reflects drought and recession-related behaviors. The higher end is based on predrought patterns of water use and a strong local economy.

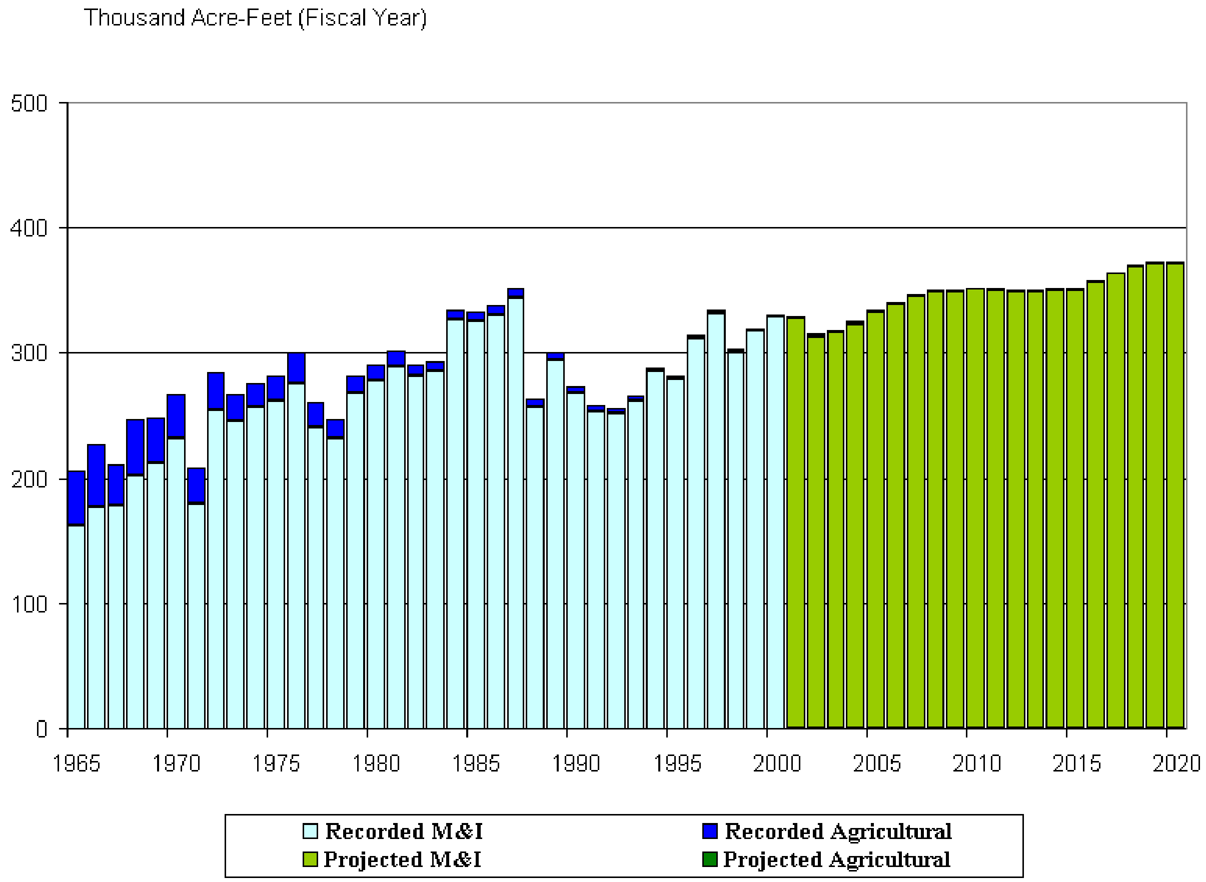
The drought and economic downturn during the early 1990s resulted in a decrease in the County water use from 1987 to 1991. However, once drought conditions and the economic recession eased, the County began a general upward trend in water consumption from 1991 to 1997. Water use dropped in 1998 due in part to unusually wet weather early in the year, which helped reduce demand for water used in agriculture and landscaping.

Per-capita water use is increasing more slowly than total countywide water use. This suggests that population growth and/or economic activity is driving the trend toward increased water consumption in the County. Per-capita water use was 196 gallons per day in 1999 and is estimated to be approximately 203 gallons per day in 2000.

The District’s long-term water supply includes water imported from the Sacramento-San Joaquin Delta, local water stored in reservoirs and groundwater subbasins, and recycled water. The Santa Clara groundwater subbasin is in the North County, while both the Coyote and Llagas groundwater subbasins are in South County.

Sources of water supply in North County consist of locally developed water and water imported via the State Water Project, the Federal Central Valley Project (CVP) or San Felipe Division, and the City and County of San Francisco’s Bay Division Pipelines (Hetch-Hetchy). South County is supplied by locally developed water and CVP water imported via the San Felipe Division. The water usage in North County since 1964-65 is shown in Figure 6-2. Projected supplies of local, reclaimed and imported water are shown to the year 2020. Projected supply availability figures are based on the long-term average supply projections to the year 2020, figures that are more fully described in the District’s 1997 Integrated Water Resources Plan (IWRP). Information on District water supply and distribution for calendar years 1999 through 2001 is shown in Table 6-1.

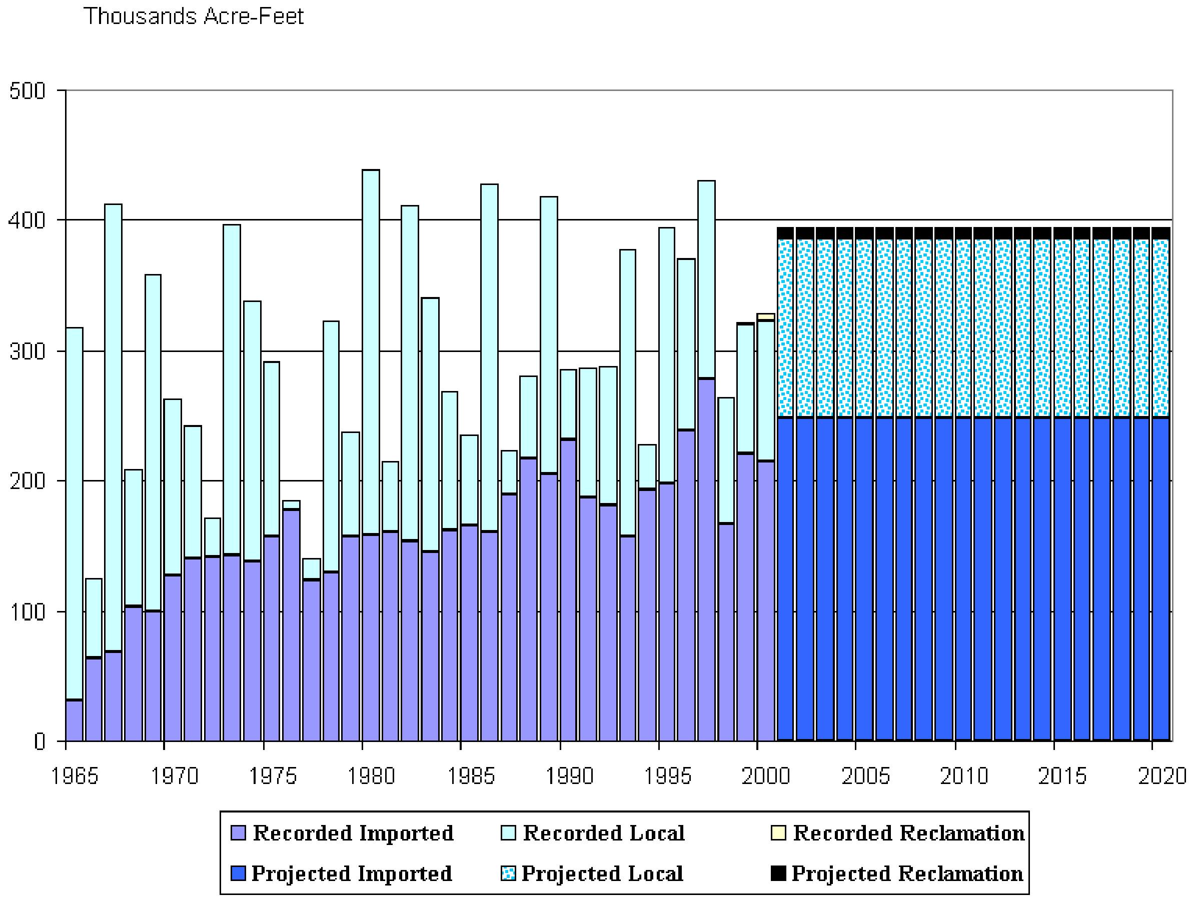
FIGURE 6-1: SANTA CLARA COUNTY WATER USE - NORTH ZONE W-2



Source: Preliminary Water Utility Enterprise Report, April 2001

In working towards ensuring a reliable future water supply, the District is engaged in several activities. Within the County, the District Operations Planning and Analysis Unit and Groundwater Management Unit continue the conjunctive use program of recharging surface water to augment groundwater supplies. The District Water Use Efficiency Unit coordinates the financial contributions to wastewater agencies for delivery of recycled water for nonpotable uses. Future local supplies are projected to be augmented by recycled water from facilities in San Jose, Sunnyvale, and the South County Regional Wastewater Authority.

FIGURE 6-2: SANTA CLARA COUNTY WATER SUPPLY (NORTH ZONE W-2)



Source: Preliminary Water Utility Enterprise Report, April 2001

TABLE 6-1: ANNUAL WATER SUPPLY AND DISTRIBUTION

	Volume (AF)		
Water Supply	**1999 (Actual)**	**2000 (Estimated)**	**2001 (Projected)**
ANNUAL WATER SUPPLY			
District Supply			
Imported Water To County			
CVP Imports	117,200	91,400	106,700
State Water Project Imports	52,900	78,200	54,600
Total Water Imported To County	**170,100**	**169,600**	**161,300**
Local Surface Water	*83,100*	*94,000*	*87,700*
Non-District Supplies			
Hetch Hetchy	61,000	60,900	61,000
Other Reservoirs and Streams (San Jose/Stanford)	16,700	16,400	17,600
Recycled Water	1,900	7,200	8,000
TOTAL	**332,800**	**348,100**	**335,600**
DISTRIBUTION OF ANNUAL WATER SUPPLY			
Distribution Within District System			
To Treated Water	131,000	129,700	128,100
To Surface Water: Irrigation/Environment	14,800	13,500	10,900
To Managed Recharge			
Santa Clara Groundwater Subbasin	80,900	96,100	88,900
Coyote & Llagas Groundwater Subbasins	26,500	24,300	21,100
Subtotal of Distribution to District System	**253,200**	**263,600**	**249,000**
Non-District Distribution			
Hetch Hetchy	61,000	60,900	61,000
San Jose/Stanford	16,700	16,400	17,600
Recycled Water	1,900	7,200	8,000
Subtotal of Non-District Distribution	**79,600**	**84,500**	**86,600**
TOTAL	**332,800**	**348,100**	**335,600**

Source: Preliminary Water Utility Enterprise Report, April 2001

6.1.2 Integrated Water Resources Plan

The majority of current water supply activities described in this Plan are being implemented as part of the District's IWRP Preferred Strategy. The preferred strategy guides the District's water resource planning through the year 2020. It was designed for optimum flexibility to meet changing conditions and demands over time through staged review, development, and implementation of four key components: water banking, long-term water transfers, recycled water, and water conservation. Implementation of the preferred strategy will occur in response to demand.

The IWRP Preferred Strategy is a flexible, long-term, overall water supply plan for Santa Clara County through the year 2020. This strategy includes "core elements," which consist of existing water supplies and baseline activities designed to increase water supply reliability, and are detailed in Table 6-2. Four "key components" – water banking, recycled water, water conservation, and long-term water transfers – serve as the cornerstones of the strategy and are the focus of this future water supply procurement processes. The preferred strategy also outlines three action levels: minimum, intermediate, and maximum. These levels correspond to a range of potential future shortages. The District is currently pursuing the intermediate action level until projected supply or demand conditions change, indicating that either the minimum or maximum action level is more appropriate. Periodic updates are scheduled as part of the IWRP process to determine the accuracy of water demand projections and the reliability of existing supplies.

TABLE 6-2: IWRP CORE ELEMENTS

Actions to Ensure Validity of Baseline Assumptions
• Achieve 46,000 AFY of water conservation by year 2020 (not including additional conservation adopted as part of the IWRP Preferred Strategy). • Achieve 14,400 AFY non-potable recycling (not including additional recycling adopted as part of the IWRP Preferred Strategy). • Establish an M&I shortage policy for CVP supplies. • Protect reliability of SWP, CVP and Hetch-Hetchy supplies. • Protect existing resources and monitor potential impacts. • Implement programs to seek improvements in source water quality, protect quality of existing resources, and improve treatment capability. • Improve data collection and evaluation. • Expand and upgrade Rinconada WTP from 80 to 100 million gallons per day (mgd) to meet anticipated capacity requirements. • Add recharge and/or treatment capacity for South County.
Actions to Monitor and Evaluate Resource Options
• Investigate water marketing opportunities. • Investigate future storage options. • Investigate increased recycling opportunities and distribution of costs and benefits.

• Investigate opportunities to improve reliability of imported water supplies. • Investigate other resource options that have been held for future consideration.
Actions to Help Meet Objectives
• Assess system vulnerability. • Continue public interaction. • Investigate system re-operation to improve efficiency.

Source: SCVWD, Integrated Water Resources Plan, January 1997.

To meet these core element objectives the District is pursuing a coordinated program that involved both study and implementation. Table 6-3 summarizes the water supply and planning activities that support the IWRP implementation and other District programs.

TABLE 6-3: SUMMARY OF WATER SUPPLY AND PLANNING ACTIVITY IMPLEMENTATION

Program / Study	Purpose	Duration / Completion
Water Demand Projection Update*	Update the District's water demand projections through 2020.	2000
General Groundwater Quality Monitoring Program*	Evaluate the status of groundwater quality and highlight areas of concern.	Ongoing
The Solvents and Toxics Cleanup Liaison Program*	Provide review of solvent and other contaminant cases to verify that appropriate and expeditious cleanup is occurring.	Ongoing
Leaking Underground Storage Tank Oversight Program*	Oversee the investigation and cleanup of cases where soil or groundwater has been affected by petroleum fuel, and additives such as MTBE from leaking underground storage tanks.	Ongoing
Nitrate Management Program*	Reduce nitrate contamination and exposure through education and monitoring.	Ongoing
Groundwater Assessment and Protection Program*	Assess groundwater vulnerability to pollution and implement management programs, i.e. MTBE Drinking Water Protection Program.	Ongoing
Groundwater Basin Management Programs*	Document the County's groundwater resources management practices.	2000
System Vulnerability Assessment*	Analyze the vulnerability of District facilities under various emergency or disaster scenarios.	2002
Expansion of Rinconada Water Treatment Plant	Enhance water supply in the west side of the North County.	2001-2003
Investigate capturing Additional Local Streamflow at Uvas Reservoir	Enhance and maximize local water supply in District's service area.	2003
Comprehensive Reservoir Watershed Management Project*	Assess water quality conditions in the reservoir watersheds and develop mitigation measures for water quality problems.	2002

Program / Study	**Purpose**	**Duration / Completion**
Monitoring Surface Storage Options*	Monitor opportunities for additional surface storage of imported and local water during wet years.	Ongoing

*Involves Coyote Creek watershed facilities and operations
Source: SCVWD, Integrated Water Resources Plan, January 1997.

The Water Supply Management Division staff began to update the IWRP in mid-2001, an effort that is expected to again involve both internal and external stakeholder processes.

6.1.3 Potable Water Supply and Distribution Facilities

The District supplies wholesale treated water and groundwater to major public and private water retail agencies, which in turn provide it to their customers in Santa Clara County. The District also provides water directly to the agricultural community and others who have private wells. In order to maintain maximum efficiency and flexibility, the water supply comes from a variety of sources. Nearly half is from local groundwater aquifers, and more than half is imported from the Sierra Nevada through pumping stations in the Sacramento-San Joaquin River Delta. Both groundwater and imported water are sold to retailers. The District also manages the groundwater basin to the benefit of agricultural users and other independent groundwater pumpers. Further information on the water supply and distribution can be obtained from the Operations Unit within the Water Utility Operations Division.

Components of the District's water distribution system include the local reservoirs, groundwater basin, imported water supplies, recharge facilities, raw water conveyance system, and water treatment and distribution system. The system is described below based on information summarized from the District's Draft Urban Water Management Plan (March, 2001). Additional information was compiled from a brochure titled "Water Supply and Distribution Facilities" (SCVWD, 1998). The distribution system elements that are located in, or pass through, the Coyote Creek watershed are further described below.

6.1.3.1 Water Treatment and Distribution Facilities

The District owns and operates three water treatment plants – Rinconada, Penitencia and Santa Teresa WTPs, with the Penitencia WTP located in the Coyote Creek watershed. The Penitencia WTP is located in the east San Jose foothills just north of Penitencia Creek at the end of Whitman Way. It was constructed in 1974 at a cost of $5 million and can sustain a maximum flow rate of 42 mgd. Of its capacity, 2 mgd are for internal use and 40 mgd are available for wholesale to water retailers. The Penitencia WTP source of water is the South Bay Aqueduct

Treated water pipelines distribute water from the treatment plants to the water retailers. The East Pipeline, Milpitas Pipeline and Penitencia Delivery Main distribute treated water from the Penitencia WTP to local retailers including the San Jose Water Company and the Milpitas Municipal Water Company. Treated Water pipelines located in the Coyote Watershed are shown in Table 6-5.

TABLE 6-5: TREATED WATER PIPELINES IN THE COYOTE WATERSHED

Facility	Distribution	Size, Composition	Length
East Treated water pipeline	From the Penitencia WTP to San Jose Municipal Water System and San Jose Water Company in the Evergreen and Alum Rock-Berryessa service areas via the Penitencia Delivery Main	33 to 48-inch diameter steel pipeline	6.4 miles
Milpitas Treated water pipeline	From the Penitencia WTP to Milpitas Municipal Water Company and San Jose Water Company, and provides for future connection to the San Jose Municipal Water System	42-inch diameter steel pipeline	4.6 miles
Penitencia Delivery Main Treated water pipeline	From the Penitencia WTP to the Piedmont Valve Yard located approximately 1 mile west of the WTP	60-inch diameter pipeline	0.3 miles

6.1.3.2 Raw Water Conveyance System

The District operates several local pipelines to transport imported raw water and locally conserved water to various locations for treatment and distribution or for groundwater recharge. There are also three pumping plants, including the Coyote Pumping Plant that supports the San Felipe Project. This conveyance system consists of the Central Pipeline, the Rinconada Force Main, the Almaden Valley Pipeline, the Calero Pipeline, and the Cross Valley Pipeline. Raw water pipelines and other facilities located in the Coyote Creek watershed are shown in Table 6-6.

TABLE 6-6: RAW WATER FACILITIES IN THE COYOTE WATERSHED

Facility	Distribution	Size, Composition	Length
Anderson Force Main raw water pipeline	From Anderson Reservoir to the Coyote Pump Station and Cross Valley Pipeline	54-inch diameter pretensioned pipeline	0.8 miles
Central raw water pipeline	From the Piedmont Valve Yard to turnouts for groundwater recharge and to the Vasona Pump Station	66-inch diameter prestressed concrete and steel pipeline	13.1 miles
Coyote Canal	Diverts water from Coyote Creek at a point about two miles downstream (north) of Anderson Reservoir. Running parallel to Coyote Creek, the canal discharges back into Coyote Creek just south of Metcalf Road	Natural canal with a 125 cfs capacity	9.0 miles

Facility	Distribution	Size, Composition	Length
Coyote-Madrone raw water pipeline	From the Santa Clara Conduit to the Madrone Channel for groundwater recharge	24-inch diameter reinforced concrete pipeline	2.0 miles
Coyote Pump Station	The pump station is located in Morgan Hill approximately ½ mile from Anderson Reservoir. It lifts water 250 feet from the Santa Clara Conduit to the Cross Valley Pipeline	Six, 2,000 horse power variable speed centrifugal pumps	Not applicable
Cross Valley raw water pipeline	From the Coyote Pump Station or the Anderson Force Main to the Calero Pipeline	78-inch diameter prestressed concrete pipeline	8.8 miles
Main Avenue raw water pipeline	From Anderson Reservoir and the Santa Clara Conduit for irrigation and groundwater recharge	16 to 24-inch diameter steel, and in some sections, concrete pipeline	1.0 miles
Penitencia Force Main raw water pipeline	From the Piedmont Valve Yard to the South Bay Aqueduct terminal tank and the Penitencia Water Treatment Plant	66-inch diameter pipeline	0.3 miles
Santa Clara Conduit raw water pipeline	From the Pacheco bifurcation to the Coyote Pump Station	96-inch diameter pipeline	S

6.1.3.3 Local Reservoirs

Local runoff is captured in local reservoirs for recharge into the groundwater basin or treatment at one of the District's WTPs. The total storage capacity of these reservoirs is 170,000 af. In the Coyote Creek Watershed are located two reservoirs with a total capacity of 111,998 af. Table 6-7 lists their significant features. Due in large part to the size of Anderson Reservoir, these two facilities represents 66 percent of the entire storage capacity of District reservoirs.

TABLE 6-7: DISTRICT RESERVOIRS LOCATED IN THE COYOTE WATERSHED

Reservoir	Capacity (af)	Year Completed	Surface Area (acres)	Dam Height (feet)
Anderson, on Coyote Creek about 2 miles east of Morgan Hill, accessed via Cochran Road	89,073	1950	1,244	240
Coyote, on Coyote Creek about 5 miles southeast of Morgan Hill, access via Coyote Reservoir Road	22,925	1936	638	120

6.1.3.4 Local Surface Water Supply

The District's local surface water supplies include stream flows that feed into and out of the District's reservoirs, stream flows not captured by reservoirs, and runoff into reservoirs. A summary of the District's Coyote Creek watershed surface water flows and yields is shown in Table 6-4 by stream type. The first, unregulated streams do not flow into or out of a reservoir.

The next component, regulated streams, include reservoir inflow and downstream accretions. Reservoir inflow consists of flows from creeks and overland, while downstream accretions refer to flows that enter a regulated stream below a dam. Further information on the local surface water supply can be obtained from the Operations Unit (565) within the Water Utility Operations Division.

TABLE 6-4: HISTORIC WATER SUPPLIES

Facility	Average Surface Flow (AFY)	Average Local Yield (AFY)	Yield as Percent of Surface Flow
UNREGULATED STREAMS			
Thompson Creek	900	400	44%
Silver Creek	1,600	500	31%
SUBTOTAL	**17,800**	**5,500**	**31%**
REGULATED STREAMS			
Calero Creek Total	4,200	4,000	54%
Penitencia Creek	4,300	900	21%
Reservoir Inflow	3,200		
Downstream Accretions			
Coyote Creek Total	31,900	34,700	65%
Reservoir Inflow (Coyote)	21,100		
Reservoir Inflow (Anderson)	175,900		
SUBTOTAL		**85,500**	**49%**
TOTAL	**193,700**	**91,000**	**47%**

Source: SCVWD, Integrated Water Resources Plan, January 1997.

6.1.3.5 Recycled Water

South Bay Water Recycling (SBWR) provides recycled water to over 300 customers who use recycled water in a variety of ways, including:

- Irrigation of parks, schools, golf courses and businesses;
- Use in landscape features such as ponds and fountains;
- Water processing for manufacturing and cooling towers; and
- Irrigation of local crops.

The recycled water system includes four pump stations, a reservoir and over 60 miles of distribution pipeline and was designed to serve up to 15 mgd to connected customers. During Summer 2000, the system experienced a peak daily use of 15.1 mgd. It is projected that the monthly dry weather average use in 2001 will be 10 mgd.

SBWR recently prepared a master plan for the future expansion of the recycled water distribution system. The outcome of the SBWR master planning process was a preferred project to expand the urban market and divert an additional 10 mgd of summer Plant flows while improving the reliability and operability of the system at an estimated capital cost of $185 million. It was recommended to implement this urban expansion in stages, considering the near-term need for diversion and funding availability. Based on the benefit cost analysis performed as part of this status reporting and assessment, an initial stage of 5 mgd of summer diversion for an estimated capital cost of $82.5 million is proposed.

The SCVWD participated in the SBWR master planning process, and the District and the City continue to discuss a partnership in future recycling projects. It is possible that SCVWD will participate in the funding of the urban expansion project, and are particularly interested in partnering with the City as the SBWR system eventually reaches south into Coyote Valley. The District especially is interested in the “regionalization” of the SBWR system, consistent with the recommendations of the Long Term Strategy portion of the SBWR master plan. Regionalization means creating a county-wide system that links SBWR with other water recycling programs. This “regionalization” is also consistent with the objectives of the Bay Area Regional Water Recycling Program, a Bay area-wide planning effort that included both wastewater agencies and water supply agencies.

6.1.3.6 Imported Supply Facilities

Imported water comes to Santa Clara County from the Sierra Nevada mountains via the Sacramento/San Joaquin Delta. This water originates from two sources: the State Water Project (SWP) and the Central Valley Project (CVP). Imported water is conveyed from these sources to Santa Clara County through 3 main pipelines: the South Bay Aqueduct, which carries water from the SWP; and the Santa Clara Conduit and Pacheco Conduit, which bring water from the CVP through the southern part of the county. The South Bay Aqueduct traverses through the cities of Milpitas and San Jose and delivers raw water to the Penitencia Water Treatment Plant. CVP water is conveyed to the Santa Teresa and Rinconada Treatment Plant or to the District’s groundwater recharge facilities. The District also retails raw water to certain large users of water, without first delivering the supplies to their retailers.

The San Francisco Water Department conveys Sierra Nevada water from its Hetch-Hetchy Reservoir to Santa Clara Valley via Bay Division Pipelines No. 3 and 4. About 77,000 AFY of potable water is delivered to communities and agencies in north Santa Clara Valley each year. These pipelines cross through the cities of Milpitas and San Jose in the northern part of Coyote Watershed.

6.1.3.7 Groundwater System

The groundwater basin in the County performs multiple functions: treatment, transmission, and storage. Water enters the groundwater subbasins through recharge areas generally located at or near the subbasins' perimeter, and is transmitted into the deeper confined aquifer of the central part of the valley. In the process, the water is filtered and becomes suitable for drinking. Eventually the groundwater reaches pumping zones, where it is extracted for municipal, industrial, and agricultural uses. The groundwater basin has vast storage capacity, enabling supplies to be carried over from wet years to dry years.

Recharge to the groundwater basin consists of both natural groundwater recharge and artificial recharge of local surface water and imported water. Natural groundwater recharge includes recharge from rainfall, net leakage from pipelines, seepage from the surrounding hills, seepage into and out of the groundwater basin, and net irrigation return flows to the basin. The District also has constructed recharge facilities to minimize subsidence in the groundwater basin, as described in Chapter 3.

The District's water rights permit for Coyote Creek, License #7212 and dated February 27, 1962, water requires them to "*cause nearly as practicable the same annual percolation between Madrone (Creek) and Coyote (Creek) and without increase in the amount occurring in the lower portion of the cone*." In essence, this water rights permit states that the District will not impact local groundwater table levels, and limits District withdrawals in any one year to less than 71,100 AFY between December 1st and May 1st of the succeeding year. Historically, water tables in this area have historically been high, and attempts to prevent water from percolating in this area would be subject to these criteria. Prior to diversion of any surface waters, appropriate water rights must be secured.

6.1.3.8 Groundwater Recharge Facilities

The District operates and maintains 18 major recharge ponds, with a combined surface area of more than 320 acres, and over 30 local creeks. Runoff is captured in the District's reservoirs and released into both instream and offstream recharge ponds for percolation into the groundwater basin. In addition, imported water is delivered by the raw water conveyance system to streams and ponds for groundwater recharge. The average recharge in these facilities is estimated to be approximately 157,200 AFY (IWRP, 1997).

Within the Coyote Watershed are located six recharge facilities containing 17 recharge ponds with a combined surface area of more than 106 acres. There are also instream facilities within the Madrone Channel and Upper Penitencia Creek. Table 6-8 outlines additional information about the groundwater recharge facilities within the Coyote Watershed.

TABLE 6-8: GROUNDWATER RECHARGE FACILITIES WITHIN THE COYOTE WATERSHED

Facility and Location	Surface Area (Acres)	Water Source
Coyote Recharge Pond – south San Jose about ½ mile north of Metcalf Road on the west side of Highway 101	30 acres; one pond measuring 5 feet in depth	Coyote Creek, Anderson Reservoir
Ford Road Recharge Pond – south San Jose about ½ mile east of the intersection of Highway 101 and Blossom Hill Road	34 acres; four ponds averaging five feet in depth	Coyote Creek, Anderson Reservoir
Overfelt Recharge Ponds – in east San Jose; 3 ponds are in Overfelt Gardens northwest of McKee Road, and one is south of Mabury Road next to Upper Penitencia Creek in Eastside Educational Park	6 acres; four ponds averaging 13 feet in depth	Upper Penitencia Creek
Penitencia Recharge Ponds – in east San Jose, along Penitencia Creek from Noble Avenue to west of Capitol Avenue	24 acres; three ponds along Noble Avenue averaging 7 feet in depth (20 acres), and a series of low dams along an excavated channel (4 acres).	Upper Penitencia Creek and South Bay Aqueduct water

6.2 Stream Maintenance Program

The following information is summarized from the District's Stream Maintenance Plan document, a copy of which is located at: http://www.heynoah.com/floodmgt/smp/smptoc.htm

The Stream Maintenance Program (SMP) is designed to provide long-term guidance to District staff to implement routine stream and canal maintenance projects in a feasible, cost-effective, and environmentally-sensitive manner. The main goals of preparing the SMP are to maintain streams and canals to meet their original design to provide flood protection and water supply, coordinate the various aspects of routine stream maintenance to better achieve this goal, and assist in obtaining multiyear permits. The District is currently pursuing a 10-year permit for SMP activities with the Regional Water Quality Control Board.

The objectives of the SMP are as follows:

1. Standardize practices and protocols for routine sediment removal, vegetation management, and bank protection in and around the streams and related facilities within the District's jurisdiction.
2. Identify cost-effective routine stream maintenance practices and protocols.
3. Ensure routine stream maintenance activities reflect the District's policies of environmental protection and stewardship.
4. To the extent practical, avoid or minimize adverse environmental effects and encourage preservation and restoration.
5. Establish effective and economically-practical compensatory mitigation for environmental impacts from routine stream maintenance activities.
6. Establish practices and protocols that optimize operational flexibility and allow the integration of lessons learned and improvements in Best Management Practices.

Development of the SMP and the EIR provides the guidance and regulatory compliance for the District to provide routine maintenance of its streams and canals without having to perform separate CEQA review or obtain permits for each individual routine stream maintenance project. The SMP will also enable the District to employ a watershed-wide approach to environmental protection. Through these programmatic documents, the District is committed to implementing individual maintenance projects in an environmentally-sensitive manner. In addition, the District has committed to a compensatory mitigation program for those impacts that cannot be avoided. Mitigation for maintenance activities, including an assessment of potential environmental impacts resulting from it, has been incorporated into the Multi-Year SMP EIR, Section II.D.

The SMP specifies procedures for maintenance design, field operations and mitigation that constitute Best Management Practices (BMPs). The District's Multi-species Habitat Conservation Plan (HCP) will provide additional information related to maintenance BMPs when working near sensitive plant and wildlife species. These results, when developed, will be incorporated into future SMP activities. The SMP includes a regional mitigation program to mitigate cumulative wetland and riparian impacts, and an assessment of the environmental impacts and necessary mitigation. The Regulatory Compliance Program Unit, once the program is approved, will monitor implementation of regulatory requirements. The SMP describes procedures, locations and Best Management Practices for Sediment Removal, Vegetation Management and Erosion Repair activities throughout the District service area. If adopted, the Watershed Field Operations Unit would implement these stream maintenance procedures in the Coyote Watershed.

As a rule of thumb, routine stream maintenance does not alter the design flood conveyance or water supply capacity of a stream or canal. Routine stream maintenance does not include emergency repairs, the installation of new fish ladders or the major modification of existing fish ladders. These projects, and similar efforts, are considered capital projects, though they may have ongoing maintenance associated with them. The ability of the District to perform maintenance activities may be affected by District ownership, easements, or right to access. The District does not provide maintenance on private property when no easement exists.

The major SMP activities are:

- Sediment Removal:
- Vegetation Management:
- Bank Protection:
- Minor Maintenance Activities:

There may be some future routine maintenance activities in streams and canals within the District's jurisdiction that which are consistent with the descriptions of work and impacts overall but which were not specifically included in the District's projection of work areas. Maintenance at such sites is still included in the program as long as it does not result in significant environmental effects substantially different than those evaluated for the SMP as a whole.

Additional information about each of these activities is summarized in the following sections.

6.2.1 Sediment Removal

Sediment removal is the act of mechanically removing sediment that has been deposited within a stream. In most cases, sediment deposition is a natural process that occurs where the stream gradient flattens out in the valley floor or where the gradient is otherwise flat over long reaches. These areas can occur both in modified streams and natural streams. Typically, sediment is removed when it:

(1) Reduces stream capacity;

(2) Prevents facilities or appurtenant structures from functioning as intended; or
(3) Impedes fish passage and access to fish ladders.

Sediment removal can occur in the same physical area as vegetation removal. Sediment removal sites are identified when the accumulation results in the inability of the District facility to perform the facilities proper functions, which include a reduction in conveyance capacity, prevention of structures from functioning as intended or impeding fish passage and/or access to fish ladders.

The District estimates that it removes an average of 80,000 cubic yards (cy) of sediment along approximately 16 miles of channel per year in Santa Clara County. Within the Coyote Watershed there is an average of 24,000 cy of sediment removed from approximately 3.4 miles of channel each season. This is an average annual quantity, and will vary from year to year depending, in part, on rainfall conditions of the past season.

The number of sediment removal sites each year also varies widely. Historical records show that the District removes sediment from an average of 19 sites annually, but may work at as few as two sites or as many as 39 in a given year. Within the Coyote Watershed there is an average of 7.3 projects per year, with between zero to 19 projects completed in a given year. Within the Coyote Watershed, a total of 29 stream miles are anticipated to need sediment removal activities performed over the next ten years. An average of 4.5 miles of sediment removal work is to be completed each year. Sediment would be removed every 2 to 5 years from each maintained stream, with project frequency based upon the amount of accumulated sediment relative to a given stream's maintenance guidelines.

Methods: Sediment removal from District channels generally involves use of excavators, bulldozers or dragline equipment with buckets or plows to consolidate the sediment in the bottom of a channel. The consolidated sediment is then scooped up (with an excavator bucket, front loader plow, or dragline bucket) and placed in a dump truck. Typical equipment used for sediment removal includes excavators, draglines, loaders, and ten or twenty cubic yard dump trucks. The method of sediment removal is dependent on channel configuration and geometry, equipment reach and rate of production, channel type (tidal or nontidal, concrete or earth bottom), moisture content of the silt, ramp location, and access road width. Most sediment removal is accomplished using the following methods:

- Wide tidal reaches with a channel bottom of wet bay mud will not support equipment requiring silt removal by a dragline or an excavator positioned on the top of the creek bank. This method requires wide roads for the equipment and for truck access.
- Concrete-lined channels can be cleaned by piling sediment with a bulldozer, then using a loader to collect the material in trucks for hauling.
- Cleaning or creating a low-flow channel is generally done with excavation equipment working in the channel bottom, loading trucks either in the channel bottom, or moving the sediment to trucks at the top of bank.

If water must be bypassed around the site during work, water pumps and piping, and cofferdams of earth, gravel, sandbags, hay bales, rubber, or other appropriate material may be used. In some cases, a bypass channel or detention basin is appropriate to isolate a site. Occasionally, saturated sediments may be temporarily placed adjacent to the work site to dry out before being removed to a landfill or to other suitable disposal or reuse sites.

6.2.2 Vegetation Management

The District removes vegetation in and adjacent to creeks and canals to maintain the ability of channels to function as flood protection facilities and canals to transport water. Vegetation management occurs in creeks, canals, and adjacent uplands. Vegetation management is performed for the following reasons:

- Removes plant growth which blocks channels or reduces flood flows;
- Protect levees and concrete linings from plant roots;
- Meet local fire codes;
- Visual clearance of a facility; and
- Control of invasive and non-native plants at vegetation sites.

Vegetation management can be accomplished through mowing, discing, hand clearing, or herbicide applications, depending on the environmental conditions of the site. Table 6-9 summarizes the frequency of use of some of the vegetation management methods used by Staff. Staff of the Vegetation Management Unit, within the District's Technical Services Division, performs vegetation management work for the District.

On average, vegetation management work is annually performed on approximately 4,000 acres within the District service area. Within the Coyote Watershed, an annual approximation of work performed is:

TABLE 6-9: VEGETATION MANAGEMENT USAGE BY TYPE

Type	Locations
Sprayed	77 miles of levees 39 miles of streams
Vegetation Management	31 miles of levees 15 miles of canals
Upland Vegetation Management	678 acres (34% of total District lands)

The frequency of vegetation management activities varies from semiannually to once every several years, depending on the method used. Herbicide spraying in stream channels is conducted only between July 1 and October 15. Removal of woody vegetation by hand is conducted July 1 through March 1. Hand removal in stream channels is conducted November through December.

Vegetation management activities are typically similar from year to year. Slight variations in flood protection activities occur due to weather patterns. Historically, increases in some work activities occur during flood years, with decreases in other activities occurring during extended periods of drought. Right-of-way activities typically remain constant regardless of these weather patterns.

Vegetation Management Methods: The five types of vegetation management currently planned and implemented by the District Vegetation Management Unit are:

- Discing;
- Mowing;
- Herbicide application;
- Hand removal; and
- Removal of overhanging growth

A method or combination of methods is chosen for each site depending on the maintenance requirements of the facility. Efficiency, economics, and the protection of public health and environmental resources are all considered in the selection of methods.

As an example, herbicides can often be a more effective vegetation control method when compared to mechanical or hand removal. This is because of their ability to spread into and damage the roots of the target plants, thus preventing resprouting. When treated with mechanical or hand methods, some woody plants, such as willows, will resprout with multiple stems. The multiple sprouts result in a greater flood protection problem and require annual control. With herbicides, annual retreatment is often necessary; however, the treatment area is greatly reduced, as only a small percentage of regrowth will occur. As a result, this program includes herbicides as the primary method by which vegetation is controlled in channels and on streambanks.

Discing: Upland discing occurs annually on upland parcels outside of the streambanks and is conducted to create firebreaks. Upland mowing consists of operating a flail mower to eliminate or reduce grasses that would cause a fire hazard during the summer.

Mowing: Mowing can occur from one to three times annually at each location, usually between May and October. Mowing is conducted on the inside slope of streambanks and outboard levees slopes to create a firebreak.

Herbicide Application: Upland herbicide spraying is used on canal and stream levees, unpaved maintenance roads, and along some property lines. On levees, herbicides are used primarily to keep woody vegetation and broadleaf weeds from becoming established where they would interfere with flood flow capacity, damage the levees, or hinder their inspection. Weeds and grasses are sprayed on maintenance roads to clearly define and keep open the access route. Herbicide spraying along property lines assists in establishing firebreaks. Pre and postemergent herbicides are sprayed from a truck-mounted rig or by a controlled drop applicator. Herbicides are not broadcast sprayed across the channel, but are selectively sprayed at the plants targeted for removal by the design parameters of each particular stream reach. In some streams, only woody saplings (no greater than 2 inches in diameter at breast height) are removed in the target area, while other streams require removal of both herbaceous and woody vegetation. In upland areas, herbicides are sprayed on maintenance roads to provide a clear access area and on levee slopes to eliminate broadleaf weeds.

Hand Removal: Hand removal of vegetation is typically conducted in upland areas where mowers or herbicide sprayers cannot access, and herbicides are either not practical due to steep terrain or not allowed. Hand removal of vegetation is generally used in upland areas along property lines to establish firebreaks.

Removal of Overhanging growth: Removal of overhanging growth consists of pruning trees branches that impede access roads or hang over fence lines. In some cases, the vegetation is sprayed with herbicides, and then approximately six months later, the dead material is removed by hand removal methods, if necessary. This latter category of work is referred to as follow-up hand removal. Follow-up hand removal of vegetation is only necessary when herbicide spraying is new to an area and there is a larger volume of dead vegetation created in the first year or two. In subsequent years, the amount of vegetative regrowth is reduced and follow-up hand removal is necessary much less frequently. The District only uses herbicides according to the label directions and for uses approved by the USEPA and the California Department of Pesticide Regulation (DPR). Currently, the primary postemergent herbicides the District uses are Roundup Pro and Aqua Master (formerly known as Rodeo). These herbicides are formulations of the chemical glyphosate, which is a nonselective broad spectrum herbicide. Aqua Master is approved for use in aquatic areas, whereas Roundup Pro is not approved for application directly in water or to areas where surface water is present.

6.2.3 Bank Protection

Bank protection involves any action by the District watershed offices to repair streambanks that are eroding as well as preventative erosion protection. Streambank erosion is a natural process, which mostly happens during major storm events. Erosion can occur because of hydraulic forces or geotechnical instabilities, and can be accelerated by human intervention and land uses. Accelerated erosion is typically a result of particular land uses that affect the stream corridor, including grazing, agriculture, and road and utility construction. Erosion of banks can result in numerous undesirable impacts, including increased sediment deposition, decreased flood flow capacities, vegetation and soil loss, property damage, safety hazards, and decreases in water quality.

Typically, the District implements bank protection when the problem either:

(1) Causes or could cause significant damage to a property or adjacent property;
(2) Is a public safety concern;
(3) Negatively affects transportation;
(4) Negatively affects beneficial uses of surface water; or
(5) Negatively affects riparian habitat.

The District estimates that an average of 5,000 linear feet of banks may be repaired annually based on historical records (SCVWD SMP-EIR, March 2001). Historical records show that in the Coyote Watershed, bank repairs were completed for an average of 911 feet per year. Facilities are inspected after the winter storms for damage and maintenance needs, and a work plan is then prepared. Unlike sediment removal and vegetation management, the historical location of bank protection activities is not a good predictor of where future bank protection will be required. The quantity and location of bank protection activities varies greatly from year to year, based upon watershed conditions, degree of safety hazard, work load, budget, and of other work to be done in a given year.

Repairs may take several forms ranging from the installation of "hard" structures (i.e., rock, concrete, sack concrete, gabions) to the use of "soft" structures (i.e., willow brush mattresses, log crib walls, pole plantings), or a combination of hard and soft structures. Bank protection also includes preventative maintenance to ensure that banks do not erode in the future. Such bank protection can reduce sedimentation and improve water quality.

Bank protection work may either occur as repair of an existing bank protection project that is failing, or as new work along a bank which is eroding. The new work is considered routine maintenance because it is either restoring the flood protection function of a modified channel or it is repairing a natural bank to its approximate condition prior to becoming an erosion problem. Repair of existing bank protection structures occurs when these structures fail and are replaced with in-kind, in-place materials. New bank protection projects are those that repair or protect the watercourse from further degradation or erosion using the most appropriate method. This type of protection is considered maintenance if the work does not significantly alter the flood conveyance capacity of the streams.

District-wide over the past 14 years, the total length of bank protection activities in an individual year ranged from approximately 1,500 to 13,000 feet. Within the Coyote Watershed, projects ranged from 14 to 1,000 feet in length, and there was an average of 911 feet of bank protection work completed each year. Within the Coyote Watershed, the average project measured 191 linear feet and required 8 working days to complete, within a range between 1 and 31 working days. Based on historical records there was an average of 38 bank protection jobs per year

District-wide (with 5 jobs per year in the Coyote Watershed), but there is considerable deviation. For example, there were nine bank stabilization projects throughout the District in 1994, and eight were located in the Coyote Watershed, while in 1987 there were 73 projects with only six of those within the Coyote Watershed.

Bank Protection Methods: District maintenance staff uses a range of methods for bank protection. These include the use of crib walls, earth repairs with vegetated slopes, cottonwood seedlings growing in articulated concrete mats, or willow wattling. Repairs may take several forms ranging from the installation of hardscape structures (i.e., rock, concrete, sack concrete, gabions) to the use of softscape structures (i.e., willow brush mattresses, log crib walls, pole plantings), or a combination of hard and soft structures. Many of the District bank protection projects demonstrate how soft methods can be combined with harder methods when site conditions cannot maintain a purely natural solution. Rock hybrid methods, for example, typically include rock riprap located at the toe of the slope, with planting of native vegetation on the earthen banks above the rock. Bank protection also includes preventative maintenance to ensure that banks do not erode in the future. Such bank protection can reduce sedimentation and improve water quality.

For all bank protection projects, the District makes an inspection upstream and downstream of a project site to determine if there is an identifiable cause of the erosion. In some cases, the cause of erosion is obvious, such as a blockage (e.g., downed tree) or weak streambanks of silt or gravel stratas. In other cases, a further inspection is conducted to determine if flows are being directed toward the bank from a source upstream, whether the channel invert is down cutting, or if illegal drainage is causing the problem. These factors can affect the bank protection approach implemented by the District.

The general design criteria and plan for each type of bank protection methods used by the District are included in the Multi-Year SMP EIR, Appendix E. Under the SMP, the District is committing to installing no more than 50% of future bank protection work using hardscape designs. Design of a particular bank protection project includes evaluation of site-specific characteristics such as bank slope, shear stress, location (e.g. inside or outside of a curve), soil type, flow velocity, characteristics of the channel adjacent to the site, and the available right of way.

Revegetation potential is also evaluated for each bank protection project. This potential is not only dependent upon the method of bank protection used, but also the physical properties of the stream where the repair is taking place. In natural stream conditions where there are no flow capacity requirements, vegetation components for streambank repair are selected. In modified creek channels where the flow requirements must be retained, this will often necessitate a roughness maximum which, depending on the channel design, may limit the vegetation component of the design.

Equipment used for bank protection may include excavators, dozers, cranes, loaders and 10- and 20-cubic-yard dump trucks, concrete trucks, and pumps and water trucks. If water must be bypassed around the site during repair work, water pumps and piping, and cofferdams of earth, gravel, sandbag, hay bales, rubber, or other suitable material may be used. In some cases, a bypass channel or detention basin is appropriate to isolate a site. Most often, bank protection projects are implemented in the dry season.

6.2.4 Minor Maintenance Activities

There are also a number of minor maintenance activities included as a part of the SMP. These include:

- Trash removal at trash racks and more generalized locations;
- Repair and installation of fences and gates;
- Grading and other repairs to restore the original contour of access roads and levees;
- Grading small areas without vegetation above streambanks to improve drainage and reduce erosion;
- Repair of structures with in-kind materials within the same footprint (such as replacement of concrete linings, culverts, pipes, valves, or similar structures);
- Cleaning and minor sediment removal at stream gages, outfalls, culverts, flap gates, tide gates, inlets, grade control structures, fish ladders, and fish screens; graffiti removal;
- Tree pruning along maintenance roads and fence lines to provide access and to remove hazards;
- Irrigation, weeding, replanting, and other types of ongoing maintenance at mitigation sites;
- Removal of obstructions to flow in the immediate vicinity (not to exceed 100 feet) of bridges, streamflow measuring stations, box culverts, storm drain outfalls, and drop structures to maintain functions of such structures;
- Removal of trees or branches that are in imminent danger of falling, fallen trees, and associated debris to maintain channel design capacity; and
- Ground squirrel and rodent control with traps, smoke bombs, and pesticides.

6.2.5 Locations

The projection for future work areas and qualities under the SMP are based on approximately 20 years of historical data. The numbers provided in the SMP and EIR (and summarized in this chapter) are program-level projections of future stream maintenance activities and are not intended to represent the exact extent of work that will occur in the future. Stream maintenance activities can vary from year to year. The program is intended to be ongoing, and can be modified as conditions change through coordination of the Watershed Management Division managers responsible for the work. However, the timing of routine stream maintenance activities is limited to the dry season, which typically occurs between April 15 and October 15.

Activities may be further limited (generally to after July 1) if nesting birds or other sensitive species are located in or near the maintenance work area.

6.2.6 Implementation of Annual Routine Stream Maintenance Work

Maintenance work can be proposed either as part of the Annual Work Plan or as other work identified later in the year through individual work orders. All stream maintenance activities would follow a Resource Protection Protocol, which is further described in the SMP documents.

The District has historically used work orders to describe and implement stream maintenance projects. Work orders provide a description of the project, schedule of implementation, estimated costs, and permit requirements or other special conditions. This tool will continue to be the primary vehicle for the implementation of maintenance projects. In addition, an Annual Work Plan that identifies the major (sediment removal, vegetation management, and bank protection) projects planned for the year will be developed by each of the three Watershed Support Units. This plan will identify the stream maintenance work that forms the basis of the annual budget. Specific information, such as location and size of the significant the major stream maintenance projects, will be provided in the Annual Work Plan.

As maintenance work is proposed, it will be evaluated to determine if the work is addressed under the SMP. If not, the work will follow the appropriate project development process that may include individual CEQA review and individual regulatory permits or clearances. An example of the type of work that may require separate regulatory clearance is removal of a drop structure in a stream. By comparison, sediment removal at the drop structure is included in the SMP.

Proposed work will also be evaluated under the requirements of the Maintenance Guidelines for the specified facility to ensure that the maintenance meets pre-established engineering requirements. For example, if a sediment removal project on a portion of Calera Creek is proposed, the Maintenance Guidelines for that area of Calera Creek provide the information on the allowable depth of sediment for a reach that will still provide design flood protection for a community. Maintenance Guidelines are updated as new CIP are completed, as better maintenance methods are developed or as refinements are made as to the level of maintenance required in a reach of creek.

If a proposed project or activity is of low impact and is typically exempt from detailed environmental review, the appropriate resource protection measures and BMPs will be identified and work could proceed without further environmental assessment. If the project is not low impact work as described above, a more detailed review process by the Watershed staff would occur. The project will be reviewed to verify that it is covered under the long-term regulatory clearances provided in conjunction with the SMP. If needed, the District will apply for individual permits or clearances. The work will be evaluated under the HCP and for compliance with the

Migratory Bird Treaty Act. Appropriate resource protection measures and BMPs will be identified and added to the work order.

Prework conferences will be held with the appropriate staff from the Watershed or Countywide Watershed Management Units to discuss site-specific requirements, environmental constraints, and BMPs. Annually, in November, Watershed staff, regulatory agency personnel and citizens involved with District maintenance will hold a "Lessons Learned" meeting to evaluate the effectiveness of both resource protection and maintenance methods used in the preceding construction season. The information and assessments will be used to update BMPs, Stream Maintenance Program processes, and the Maintenance Guidelines and to create a greater understanding of how to accomplish environmentally-sensitive, fiscally sound maintenance work.

6.2.7 Annual Reporting

Annual reporting for the SMP is anticipated to include four elements – a pre-work plan, sediment sampling and characterization plan, post-work annual report and mitigation update. Each Watershed Support Unit will prepare annual reports. Submittals required by regulatory agencies will be coordinated by Regulatory Compliance Program Unit staff. Some of the components of these annual reports are expected to include:

- The District's Annual Stream Maintenance Work Plan, which includes the description of the proposed work, location, and extent of work area will be submitted to USACE, United States Fish and Wildlife Service (USFWS), CDFG, USEPA, BCDC, and RWQCB prior to the commencement of the work (likely in May).

- The sediment sampling and characterization plan will be revised in June, prior to the work season. Over the years of this program, it is expected that the requirements for sediment sampling and characterization are to be reduced as the usefulness and repetitiveness of the data of previous years is evaluated.

- A final annual report detailing what work was accomplished will be submitted to USACE, USFWS, CDFG, USEPA, BCDC, and RWQCB at the end of the maintenance season (prior to January 1) which will specify which projects were completed for the year including type of work, location, and size of the project.

In addition to reporting on the maintenance activity completed for the year, the District will also provide reporting on the implementation of the mitigation program. The details of this reporting will be determined with the applicable permitting agencies and through the environmental documentation process. For the first five years of the program, the District will provide the agencies with a tour of representative work areas (especially those along target streams and watersheds) for that year and all mitigation sites. This tour will take place after completion of the work season. Preconstruction photographs will also be provided.

6.3 Water Quality Protection Programs

Preserving the quality of water supplies is more cost-effective than treating contaminated or degraded water. Pursuant to the District's mission to provide high-quality water to the County, the District continually addresses water quality problems that threaten the delivery of safe, reliable, high-quality water. This is to ensure that water delivered to the District's retailers meets or exceeds all state and federal drinking water regulations. This includes all existing regulations and provisions of the SDWA Amendments of 1996, the California SDWA, and any provisions of the District's treatment plants' operating permits from the California Department of Health Services. The District also responds to unforeseen water quality issues and acts to ensure the continued ability to deliver high-quality water.

The District is responsible for protecting surface and groundwater resources for use in the County. Water quality programs include the treatment of local and imported water at water treatment plants and the protection of surface and groundwater resources from contamination. Water treatment is necessary to ensure that the water the District provides meets or exceeds all federal and state drinking water standards. Resource quality protection has numerous aspects that are discussed below. Specific information about District water quality programs are available on the District website at www.heynoah.com. Monthly water quality test results are also posted.

The following sections summarize some of the water quality operations and issues the District is currently addressing. These issues include:

- Treated Water Operations;
- Capital Improvements;
- Methyl Tertiary Butyl Ether;
- Nitrate Management;
- Groundwater Guardian;
- Underground Storage Tank Fuel Cleanup Program;
- Well Ordinance Program;
- HAZMAT Emergency Response Program; and
- Santa Clara Valley Urban Runoff Pollution Prevention Program;

These topics are summarized below.

6.3.1 Treated Water Operations

The District owns and operates three water treatment plants: the Santa Teresa Water Treatment Plant, Rinconada Water Treatment Plant, and Penitencia Water Treatment Plant. These WTPs treat raw water to a level meeting or exceeding all state and local requirements. This section identifies some of the specific water quality protection operations of the water treatment operations, which are summarized in Section 6.1.

Partnership for Safe Water: Reflective of its commitment to provide the highest quality water possible, the District was among the first water utilities nationwide to join the Partnership for Safe Water in 1995 (Partnership). The Partnership is a voluntary program developed cooperatively by the USEPA, the American Water Works Association, the Association of State Drinking Water Administrators, and several other national drinking water industry organizations. The purpose of the program is to further reduce the potential risks to consumers from microbial contaminants such as cryptosporidium and giardia. This is accomplished by evaluating treatment plant facilities, processes, operating and maintenance procedures and management oversight practices, and then implementing appropriate improvement measures. The District has consistently surpassed the Partnership's goal for filtered water turbidity, a critical indicator of plant performance.

Safe Drinking Water Act Amendments: The District is proceeding with improvements to the purification processes at each of its three treatment plants, in response to two relatively new federal Safe Drinking Water Act (SDWA) amendments: the Enhanced Surface Water Treatment Rule and the Disinfectant/Disinfection By-Product Rule, announced in December 1998. The official compliance date for these amendments is December 2001, which allows time for necessary plant modifications. The planned changes in the process for water treatment will reduce the incidence of harmful by-products that can occur when surface waters containing organic materials are disinfected with chlorine.

Disinfection by-products are compounds that can form when natural organic matter in water reacts with chemicals used for disinfection. Disinfection using oxidants such as liquid chlorine or chloramines is an important step in the purification of drinking water, but can produce undesirable disinfection by-products. The destruction of disease causing organisms by disinfection has been in widespread use since the early 1900s and has eliminated outbreaks of water-borne diseases such as cholera and typhoid in this country. Maintaining trace levels of chlorine or chloramines residuals in drinking water after it leaves the treatment plant provides the added benefit of limiting microbial growth in the distribution system. Some disinfection by-products, such as trihalomethanes, are suspected to have long-term health effects.

Organic Content: An additional approach to managing residuals from treatment processes is to reduce the organic content of source water. The water imported by the District through the Delta has high levels of organic compounds from agricultural drainage and urban discharges. A major objective of the District's participation in the CALFED Bay-Delta Program is to improve the source quality of water available as import from the Delta. The District is also participating in a CALFED-sponsored Bay Area Regional Blending/Exchange Study to investigate opportunities for water quality improvements through partnership in regional facilities or exchanges.

6.3.2 Capital Improvements at the Water Treatment Plants

To meet the new SDWA amendments, the District is currently upgrading all three of its drinking water treatment plants in two stages by installing improved methods of treatment to meet these new drinking water regulations. Stage 1 changes include modifications to the chlorine system, providing ferric chloride and potassium permanganate chemical feed systems, installing total organic carbon analyzers, and implementing other plant upgrades. Some of the Stage 1 strategies include delaying chlorination, which reduces the formation of by-products by limiting the time that chlorine is in contact with organic materials and enhancing coagulation, which improves the removal of organic materials before the chlorination process. Work at Rinconada Water Treatment Plant and Santa Teresa Water Treatment Plant will be complete in 2001. Due to the significant landslide and seismic protection work at Penitencia Water Treatment Plant, work will be extended to 2002. The estimated cost for Stage 1 is $39 million.

Stage 2 of the planned work will further reduce the levels of disinfection by-products and potential for microbial contaminants in treated water and to further improve water quality. This will include switching to ozonation as the primary disinfection method instead of chlorination and installing filter washwater clarification facilities. The Stage 2 work also includes structural modifications to improve treatment plant reliability during seismic events and process additions to increase treatment capacity at Rinconada to meet projected future demands. The design is underway and the $176 million capital improvement project is scheduled for completion in 2007.

To complement these new treatment efforts, the District also is planning a new Water Quality Laboratory. The facility will replace the 30-year old Rinconada laboratory and will more reliably and cost-effectively monitor the quality of our water supplies.

6.3.3 Methyl Tertiary Butyl Ether

A continuing threat to the drinking water supply is the gasoline additive called methyl tertiary butyl ether (MTBE). MTBE is a colorless chemical compound added to reformulated gasoline that was developed to reduce smog and meet the goals of the Clean Air Act. The State Air Resources Board mandated the year-round statewide use of reformulated gasoline in 1996. Since November 1996, the District, in partnership with the County's water retailers, has engaged in an aggressive monitoring program to track the occurrence of MTBE in the County's water supplies. In November 1997, the District confirmed the presence of small amounts of the chemical in water entering and leaving its three treatment plants. Traces of the additive have been found in a well owned by Great Oaks Water Company; this well was removed from service. Currently, MTBE is nondetectable in the local public water supply.

The human health effects of ingesting MTBE-contaminated water are not well known. However, the United States Environmental Protection Agency has labeled MTBE a "possible" human carcinogen and has issued a drinking water advisory of 20 to 40 ppb to protect public health and for taste and odor concerns. The California Department of Health Services' Office of Drinking Water has established a secondary maximum contaminant level for MTBE of 5 ppb. Secondary standards are set for aesthetic qualities (taste and odor). In May 2000, the Department of Health Services' Office of Drinking Water implemented a primary maximum contamination level of MTBE of 13 ppb to protect public health.

The District is aggressively pursuing long-term solutions to this potential problem through a two-pronged approach. A high level of effort is being expended to prevent more of the contaminant from entering public water supplies. In addition, the District has expanded its legislative and outreach efforts (through our Government Relations and Public Information Units) to restrict the use of MTBE as a gasoline additive. In late March 1999, the Governor of California ordered a phase-out of the additive in California gasoline by the end of 2002.

The Board of Directors sent a letter to the Santa Clara County Board of Supervisors, recommending a countywide prohibition against the sale or distribution of gasoline containing MTBE or other ether oxygenates. In July 2000, the Board of Supervisors, rather than adopting the prohibition, sent a letter to Governor Davis supporting his efforts to phase out MTBE use in California.

Monitoring continues at District reservoirs, treatment plants, and in all of the District's groundwater basins. The District is conducting a focused groundwater MTBE monitoring program, focusing on sampling shallow and deep wells in areas vulnerable to groundwater contamination. Wells were selected based on hydrogeology and the density of wells, underground storage tank sites and operating service stations. The District completed the fourth round of sampling for this program in 2000. Samples have been collected and analyzed from approximately 100 wells throughout the County. After four sampling rounds, no reportable concentrations of MTBE have been detected in any of the study wells. The District will continue monitoring groundwater, but will reduce the sampling frequency and the number of wells in the program.

The District conducted a pilot study to determine if MTBE releases are occurring at sites that comply with new standards for underground storage tanks. MTBE was detected in groundwater at 13 of the 28 sites that were studied. In addition, the District completed a detailed study of 16 leaking underground storage tank sites to determine if undetected releases are occurring and identify potential weaknesses in fuel storage, management, and delivery operations. As a result of the study, the RWQCB is requiring groundwater sampling for MTBE at approximately 50 operating gasoline storage facilities.

To protect local surface water supplies from MTBE, the District is working with Santa Clara County Parks and Recreation on a program to manage the number of gasoline-powered watercraft allowed on three District reservoirs. The goal of the program is to ensure that concentrations in the reservoirs do not surpass our target of 3 ppb the use of gasoline produced without MTBE in all watercraft on District-owned reservoirs.

6.3.4 Nitrate Management

A different threat to groundwater supplies is nitrate contamination. High nitrate concentrations in drinking water can cause health problems in infants less than 6 months of age. Nitrate contamination is a particular concern in the southern portion of the County. The District has designed a Nitrate Management Program to monitor nitrate occurrence, reduce nitrate exposure, and reduce nitrate loading in the Llagas and Coyote groundwater subbasins of South County.

To monitor nitrate occurrence, the District has established a network of 57 wells throughout the South County study area. These wells are sampled on a quarterly basis to determine if there are any seasonal and/or areal trends. The District has installed 10 shallow groundwater monitoring wells (less than 100 feet) to assess variations in nitrate concentration with depth. Currently, 15 of the 57 wells are less than 100 feet deep. Network wells have been monitored quarterly since February of 1999. Based on the analysis of the data, we may decrease the frequency of monitoring and/or install additional wells.

To reduce exposure to nitrate, the District offers a free nitrate analysis to all private water supply well users in the southern part of the county. Since 1998, over 600 tests have been conducted. More than half the wells tested have exceeded the maximum contaminant level of 45 milligrams per liter of nitrate (mg/L NO_3). Test recipients are given a copy of the results along with a fact sheet detailing what nitrate is, where is comes from, what the health risks are, how to remove nitrate using point of use treatment systems and how to prevent further contamination.

To reduce nitrate loading, the District has launched a public education program. The District has identified the main sources of nitrate in the South County area as fertilizer applications, septic systems, and animal enclosures. We worked with the University of California Cooperative Extension, Department of Agriculture, Farm Bureau and Natural Resource Conservation Service to produce several seminars/workshops on nutrient, irrigation and pesticide management. Over 290 people have attended 10 seminars/workshops that the District has offered since July of 1998. The District offers free irrigation system evaluations to help local growers improve irrigation efficiency and free soil nitrate test kits to help local growers improve fertilizer management. The District worked with nearby counties facing similar problems to produce and distribute fact sheets on nitrogen and water management in agriculture. In addition, the District is a cooperator on a grant with a soil scientist to establish field trials demonstrating and evaluating the effectiveness of in-field nitrate testing in drip and sprinkler-irrigated vegetables. All of the agricultural information, including a calendar of events and links to other resources, are posted on the District's web page, http://www.scvwd.dst.ca.us/wtrcnsrv/agricult.htm.

The District Water Use Efficiency Unit plans to expand the outreach program to home gardeners/landscapers and livestock owners. A series of fact sheets are being produced in cooperation with the Loma Prieta Resource Conservation District and the University of California Cooperative Extension for the rural homeowner. Water Use Efficiency staff plan to work with the County's new Natural Resource Advisor on an equine manure management workshop.

6.3.5 Groundwater Guardian

The District has been designated as a Groundwater Guardian by the Groundwater Foundation based on our groundwater protection efforts. The Groundwater Foundation is a nationally recognized, private, non-profit, educational organization dedicated to protecting groundwater resources from contamination and over-drafting. Planned activities include encouraging and supporting community outreach and protection efforts, developing public outreach and education materials, and continuing to provide technical assistance for groundwater protection activities. The District's Water Use Efficiency Unit coordinates these activities.

6.3.6 Underground Storage Tank Fuel Cleanup Program

The District's Underground Storage Tank Program Unit oversees the investigation, cleanup, and closure of cases where soil and/or groundwater have been affected by petroleum fuel and additives such as MTBE from leaking underground storage tanks. Over 2,300 fuel leak cases have been reported in the County, and 70% of these cases have received regulatory closure from the SWRCB, SFBRWQCB, CCRWQCB or the District. The District is currently overseeing 562 tank sites in North County and 26 sites in South County. To date, 1,558 sites in North County and 68 sites in South County have been closed. The remaining open sites are overseen by the RWQCBs, with the exception of six sites that receive oversight from the City of Gilroy.

The majority of the active cases are associated with releases of gasoline. MTBE has been detected at more than 366 of the active gasoline tank sites. MTBE has been detected at very low concentrations in at least one large public water supply well, one water well that supplies a local school district, and several private wells. The District conducts studies to understand the hydrology and the direction of the water flow in the aquifers. Based on these studies the district prioritizes those sites that pose the greatest risk to the groundwater basin and will take immediate action to correct the sites that have the greatest potential for contamination of the water wells.

6.3.7 Well Ordinance Program

The District Wells and Water Production Unit protects the quality and quantity of the County's groundwater resources by ensuring that all wells in the County are constructed, maintained, modified, and destroyed in compliance with the District Well Ordinance and the State Water Code.

The Well Ordinance program includes permitting, tracking, inspecting, and violation enforcement of all wells in the County. The program also assists the public in destroying abandoned wells and maintains District-owned wells. During the first half of FY 2000-01, the District:

- Permitted 1,315 wells and other deep excavations for construction or destruction;
- Inspected 995 wells and other deep excavations constructed or destroyed;
- Registered 80 wells; and
- Provided drilling services to the owners of 4 abandoned wells.

The District also worked with the Department of Environmental Health to produce a Well Owner's Guide discussing proper well construction, maintenance, protection, and monitoring. A copy of this guide is located at http://www.scvwd.dst.ca.us/wtrsuply/wswp.htm.

6.3.8 HAZMAT Emergency Response Program

To prevent contamination of the County's water supply from hazardous materials, the District Countywide Watershed Programs Unit manages the investigation, analysis, removal, and disposal of suspected or known hazardous materials dumped or spilled in the vicinity of source areas such as reservoirs, recharge ponds, and creeks. A contamination hotline (1-888-510-5151) is available to report for reporting of spills and other problems 24-hours per day.

6.3.9 Pollutant-Specific Provisions

The recent emphasis on enforcement of long-standing Federal requirements that the states develop and implement TMDLs has led the Regional Board to request, and then require, assistance with estimating pollutant loads and with identifying control measures. The Program has scooped and budgeted monitoring projects to comply with the NPDES permit provisions that require the Program to assist Regional Board staff to prepare TMDLs. Many of these projects continue and expand on current efforts to assist the Regional Board. The geographic extent of these projects is program-wide, and includes the Coyote Creek watershed as well as other watersheds in the basin. EOA, in its capacity as program manager, completes most of the multi-agency provisions discussed in the text below.

6.3.9.1 The Metals Control Measures Plan

FY 00-01 Project SC27.05, Metals Control Measures Plan, was created to assist implementation of baseline activities contained in the Lower South San Francisco Bay Copper and Nickel Action

Plans, to track and report activities, and to continue to work with the SCBWMI Bay Monitoring and Modeling (BMM) and Regulatory Subgroups regarding BMM Work Plan Updates. Detailed descriptions of copper control program activities and nickel control program activities are included in the Copper and Nickel Action Plans approved by the SCBWMI and transmitted to the RWQCB as part of the Copper and Nickel TMDL Project. The scope of the Program's activities will be defined the FY01-02 fiscal year Work Plan to provide for continued support of baseline activities (FY01-02 Project #9, 10 and 11).

6.3.9.2 The Mercury Rising Project

Project SC27.06, Mercury Rising, was created to assist Regional Board staff with preparation of TMDLs and Implementation Plans to address potential effects of mercury and PCBs on beneficial uses of San Francisco Bay. The focus of this project to date has been to respond to a May 2000 Regional Board request for information by leading a joint project, with other Bay Area stormwater programs, to study mercury and PCBs in storm drain sediments.

Provision c(9)c requires the Program to prepare a Mercury Plan by March 1, 2002. Provision C9cii provides that the Mercury Plan should include a schedule for assisting Regional Board staff to conduct an assessment of the contribution of air pollution sources to mercury in urban runoff.

Provision C(9)c iii requires, by the same date, "an assessment of sediment mercury concentrations and percentage of fine material at the base of key watersheds, above the tide line." The scope of Project 27.06 will be augmented, and an additional project will be added in FY01-02, to provide for preparation of monitoring-related sections of the Mercury Plan (FY01-02 Project #12). Other sections of the Mercury Plan will be prepared as part of the Program's Public Information and Participation activities and administrative activities.

6.3.9.3 The Pesticide Project

Project SC27.07, Regional Pesticide Strategy Coordination and Implementation, provides for the Program to continue involvement with the BASMAA Pesticide Work Group and Urban Pesticide Committee to coordinate, evaluate, and report on storm water management plan actions outlined in the BASMAA Pesticide Strategy and in the Program's Pesticide Work Plan.

Provision C(9)d requires the Program to submit, by July 1 2001, a "pesticide toxicity control plan (Pesticide Plan) that addresses their own use of pesticides including diazinon, and, other lower priority pesticides no longer in use such as chlordane, dieldrin and DDT and the use of such pesticides by other sources within their jurisdictions. The Dischargers may address this requirement by building upon their prior submissions to the Regional Board. They may also coordinate with BASMAA, the Urban Pesticide Committee, and other agencies and organizations." The extent to which the Program's current Pesticide Work Plan, and the BASMAA Pesticide Strategy, fulfill the requirements of C(9)d is unclear, and it is likewise unclear what additional measures may be recommended or required. The scope of Project SC27.07 will be augmented, and an additional project will be added in FY01-02, to resolve these questions and to prepare and revise the Pesticide Plan (FY01-02 Project #13).

Provision C(9)e requires characterization of the distribution of dioxin-like compounds, as well as PCBs, in urban areas of the Santa Clara Basin. The provision also requires "identification of control measures and/or management practices to reduce or eliminate discharges of PCBs or dioxin-like compounds from urban runoff conveyance systems." The joint stormwater agencies project, which the Program contributes to through the aforementioned Project SC27.06, Mercury Rising, will assess occurrence and distribution of PCBs, as well as that of mercury, in Bay Area storm drain sediments.

Identification of PCB control measures, and a schedule for their implementation, is required by June 1, 2001. Also required by that date is a work plan to characterize the distribution of dioxins. The FY00-01 Monitoring Plan and budget has been augmented to provide for preparation of those reports. A new project has been included in the FY01-02 monitoring budget to provide for updates and revisions to the PCB control measures plan (FY01-02 Project #14). An additional new project has been included in the FY01-02 monitoring budget to provide for a joint study with other Bay Area stormwater programs to characterize distribution of dioxins (FY01-02 Project #15). Additional projects will be required in FY02-03 to prepare a work plan for control of dioxins, with implementation of control measures scheduled for FY03-04.

6.3.10 Santa Clara Valley Urban Runoff Pollution Prevention Program

The District participates in the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP), a multi-agency stakeholder program to implement storm water pollution prevention activities. The SCVURPPP includes the District and 14 other public agencies (co-permittees) in northern Santa Clara County involved in stormwater management. The major focus of the SCVURPPP is compliance with the countywide NPDES permit. The District is the contracting/fiscal agent for outside consultants who provide program management services to the 15 SCVURPPP agencies.

On February 21, 2001 the RWQCB issued the first third-generation storm water permit in the country to the SCVURPPP. The new 5-year storm water permit requires the implementation of joint Urban Runoff Management Plan (URMP) as well as each co-permittee's URMP. Permit conditions include continuation of existing control measures and BMPs, plus the development of new performance standards. During the 5-year permit period, RWQCB staff requires implementation and continual improvement of prior and new permit provisions, which apply to municipal control of new development and construction within their jurisdictions.

The new permit contains requirements for the co-permittees to work both individually and collaboratively to implement storm water pollution prevention activities to prevent or reduce pollution. Multi-agency collaborative efforts include:

- Public watershed education and outreach;
- Multi-year receiving waters studies;
- Watershed management and assessment; and
- Pollutant control programs for:
    - Copper;
    - Nickel;
    - Mercury;
    - Pesticides (diazinon and other lower priority pesticides);
    - PCBs and dioxin-like compounds; and
    - Sediment.

Each agency, individually, is also required to implement pollution prevention measures, consistent with the SCVURPPP and Co-permittee URMPs, to minimize storm water pollution to the maximum extent practicable that results from their own activities or from within their own jurisdiction. District activities impacted by these requirements include: field operations (channel maintenance activities), planning and inspection of District capital improvements construction, permitting and inspection of creek-side community developments, runoff from District facilities, and response to HAZMAT or other polluting incidents.

The District is also supporting the implementation, with the copermittees, of the proposed c.3 requirements, which address watershed based detention/retention facilities and development of a Hydromod Management Plan.

The program manager completes most of the multi-agency provisions, which are summarized below:

6.3.10.1 Monitoring Activities For Coyote Watershed

The SCVURPPP Monitoring Ad-Hoc Task Group, of which the District is a member, oversees the SCVURPPP monitoring plan, coordinates with activities of the Santa Clara Basin Watershed Management Initiative (WMI), and reviews proposed projects and allocates funds. In order to most effectively use its time and money toward fulfilling permit requirements, the Ad-Hoc Task Group developed the following monitoring project priorities listed below. Each of these priorities is intended to fulfill specific provisions of the NPDES permit or the URMP. Specific monitoring requirements of the NPDES Permit that are underway in the Coyote Watershed are as follows:

TABLE 6-10: SCVURPPP NPDES MONITORING REQUIREMENTS

Provision	Description
Provision 6(i).	Enhanced Annual Reporting Requirements for Industrial/Commercial Discharge Control Program
Provision 6(ii).	Enhanced Annual Reporting Requirements for Illicit Connection and Illegal Dumping (ICID) Elimination Activities
Provision 7.	Monitoring Program For FY 2001-2002 the Monitoring Project List includes: • Multi-Year Receiving Waters Monitoring Plan • Enhanced ICID Reporting • Enhanced IND Reporting • Identification of Sediment-Impaired Creeks • Plan and Schedule to Conduct Sediment Assessments • Report on Integration of Watershed Management Activities into URMP • Program Data Management • Support Land Use Subgroup • Copper and Nickel Baseline Support • Baseline Copper Activities – Reporting • Baseline Nickel Activities – Reporting • Mercury Plan • Pesticide Plan • PCB Control Measures Identification and Implementation • Dioxin Characterization Work Plan
Provision 9.	Water Quality Based Requirements for Specific Pollutants of Concern • Control Program for Copper • Control Program for Nickel • Control Program for Mercury • Control Program for Pesticides • Control Program for PCBs and Dioxin Compounds • Control Program for Sediment
Provision 10	Watershed Management

The task group will also implement major new projects to enhance implementation of BMPs, to assess beneficial uses of watersheds, and to recommend program improvements and further study. In addition, it is anticipated that the project outcomes from the pilot functional assessment of habitat in the Coyote Watershed will lead to recommendations for targeted, systematic water-quality and biological sampling to investigate and monitor specific watershed conditions. This work will assist the WMI in the assessment of beneficial uses in selected portions of the Coyote Watershed.

The current approach to watershed monitoring by the SCVURPPP is focused on characterizing drainage areas, including land use characteristics, consideration of physical, biological and chemical indicators to assess the drainage areas, and the incorporation of special and pilot studies. The SCVURPPP supports and coordinates monitoring activities with the BASMAA Regional Monitoring Strategy (RMS), the SFEI Regional Monitoring Program for Trace Substances (RMP), and the Regional Board's Regional Monitoring and Assessment Strategy (RMAS). Table 6-11 provides a brief summary of current, ongoing, or planned SCVURPPP monitoring projects in the Coyote Watershed. Performance measures and standards currently under development may modify the future monitoring programs.

TABLE 6-11: SCVURPPP COYOTE MONITORING TABLE

Permit Provision	Project/ Task Description	Project #	Project Outcomes/ Milestones
SCVURPPP Category #2 - Continuous Improvement			
C(6)a	Continuous Improvement of ICID	Project SC27.03 – Feasibility	Description of Procedures for Enhanced ICID Reporting, 2001 Development and Testing of Program-wide ICID Reporting System, 2001-2003 Implementation of Program-wide ICID Reporting System, 2003-2005
C(6)a	Continuous Improvement of IND	Project SC27.04 – Feasibility	Description of Procedures for Enhanced IND Reporting, 2001 Development and Testing of Program-wide Inspection Reporting &Tracking System, 2001-2003 Implementation of Program-wide Inspection Reporting &Tracking System, 2003-2005
C10	Drainage Retrofit for Litter Control	Project SC27.01	Technical Report, 2002
C10	Storm Drain Inlet Retrofit Design Development	Project SC27.02	Technical Report, 2002
C2/6/10	Integration of Stormwater Permitting and Enforcement	Project SC27.08	Technical Report, 2002
SCVURPPP Category #3- Support SCBWMI			
3a - Investigate BU s and Causes of Impairment			
C10	Support for SCBWMI Watershed Assessment Subgroup Work plan	SC18.01 SC22.62	Through 2005
C7/10	Policy and Guidance for 305(b) Assessments and 303(d) Listings	Project SC22.59	Contributions to 305(b) Report, 2002
C7/10	Integrated Assessment of Coyote Creek	SC27.11 -	Report, 2002
C(9)f	Identify other creeks potentially impaired by sediment	Recommended project, not yet assigned number	Report, 2002

Permit Provision	Project / Task Description	Project #	Project Outcomes / Milestones
C(9)f	Other Creeks - Watershed Analysis and Management Practice Assessment	Recommended project, not yet assigned number	Plan and Schedule for Assessments of Other Creeks, 2002 Assessments of Other Creeks, 2002-2005
C(10) a, b.	Integration of Watershed Management into URMP	Recommended project, not yet assigned number	Report with key characteristics of each watershed and schedule for assessments, 2001
C(10) c	Summary Assessments of Each Watershed	Recommended project, not yet assigned number	Through 2005
C7/10	Targeted Assessment and Monitoring of Water-Quality and Biological Indicators in Coyote Creek	Recommended project, not yet assigned number	Recommendations from Projects SC27.11 & SC22.59, 2002 - 2005
C7/10	Support for Baylands Assessment	SC27.13	Report, 2002
3b - Review and Compile Environmental Data and Make it Accessible			
C2-10	Compile, Maintain and Share Watershed Data	Projects SC22.63 & SC27.09	Through 2005
3c - Develop Strategies for Controlling Impacts of Land Use on Beneficial Uses			
C10	Support SCBWMI Land Use Subgroup	Project SC22.67	Through 2005
C10	Opportunities for Land Use Policies to Protect Beneficial Uses	Project SC20.06	2002
C10	Economic and Tax Incentives in Watershed Management	Project SC22.65	2002
C10	Stakeholder Involvement in Current Land Use Decisions	Project SC24.03	Through 2005
SCVURPPP Category # 4- Regional Collaborative Efforts			
C(7)b	Participation in Regional Monitoring Program	Projects SC22.61 &SC27.10 - Assist RMP Redesign	Through 2005
C(7)b	Annual Contribution to RMP		Through 2005
Provisions – Pollutant-Specific			
C(9)a	Control Program for Copper	SC27.05 - Metals Control	Annual Report on Baseline Activities, 2001-2005
C(9)b	Control Program for Nickel	Measures Plan	Annual Report on Baseline Activities, 2001-2005
C(9)c(ii).	Mercury Control Program -- Assist RB staff to assess air pollution	SC27.06 - Mercury Rising	Report on Distribution of Hg in Storm Drain Sediments, 2001 "Mercury Plan" Schedule, 2002 Assess Air Pollution Contributions, 2002-2004

Permit Provision	Project / Task Description	Project #	Project Outcomes / Milestones
C(9)c(iii)	Assess Hg at base of watersheds	Recommended project, not yet assigned number	Assessment, 2002
C(9)d	Regional Pesticide Strategy Coordination & Implementation	SC27.07	2001
C(9)d	Control Program for Pesticides	Recommended project, not yet assigned number	Pesticide Plan, 2001
C(9)e(i) & (ii)	Characterize PCBs	SC27.06 (participation in Joint SW Agencies Project)	
C(9)e(i) & (ii)	Characterize Dioxins	Recommended project, not yet assigned number	Work plan, 2001 Implementation, 2002-2003
C(9)e(iii) & (iv)	Identify PCB Control Measures; Schedule Implementation	Recommended project, not yet assigned number	Work plan, 2001 Implementation, 2002-2005
C(9)e(iii) & (iv)	Identify Dioxin Control Measures; Schedule Implementation	Recommended project, not yet assigned number	Work plan, 2003 Implementation, 2003-2005

6.3.10.2 Integrated Assessment of Coyote Creek

The objective of this project is to develop and test an integrated watershed assessment approach on a pilot scale in the Coyote Creek watershed. The assessment will stress the linkage of stream hydrogeomorphic functions to habitat functions and how these functions support aquatic life beneficial uses. The project will identify appropriate monitoring locations and provide baseline information for a long-term monitoring program for continued watershed assessment. The project will also contribute to the WMI's Watershed Assessment Report and incorporate Coyote Creek into the RWQCB RMAS group of "pilot watershed assessments". The project will identify the major issues affecting watershed health in the Coyote Watershed, and develop a list of appropriate management actions to preserve and enhance.

Based on recommendations from Projects SC 27.11 and SC 22.59, a future project "Targeted Assessment and Monitoring of Water-Quality and Biological Indicators in Coyote Creek" is planned for years 2002 through 2005, and will be conducted to comply with Provisions C7, C9, and C10 of the Order.

6.3.10.3 Identify Other Creeks Potentially Impaired By Sediment

Provision C(9)f.iii. requires the SCVURPPP to submit a report by March 1, 2002 identifying other creeks that may be impaired by excessive sediment production from erosion due to anthropogenic activities. In addition, another SCVURPPP requirement is, by September 2002, “to conduct a watershed analysis and management practice assessment in other creeks which may be impaired by excessive sediment production.” Preparation of both submittals is provided for in the FY01-02 Monitoring Plan (Projects #4 and #5). The actual sediment assessments will be incorporated into future monitoring plans, beginning with FY 03-04.

6.3.10.4 Summary Assessments of Each Watershed

The SCVURPPP currently assists the RWQCB to improve the technical content of its CWA 305(b) water quality assessment guidance and CWA 303(d) impaired water bodies listings as part of the RMAS (Project SC22.59). The focus of the SCVURPPP efforts is on developing and refining the methodology for assessing urban streams. The main goals of the RMAS are as follows:

- To identify and address the root causes of regional water quality problems;
- To develop realistic water quality and habitat goals; and
- To provide the sound scientific basis necessary to protect resources.

The approaches to monitoring and assessment within the RMAS include the use of bioassessment data and physical measurements in the Regional Board decision-making process, coordination of consistent monitoring and assessment efforts and protocols, and enhancement of water body classification to help improve sampling design. The RMAS is being carried out in a phased approach, establishing a rotating basin approach that will eventually result in a comprehensive assessment of surface and groundwaters in the San Francisco Bay Region.

The SCVURPPP supports the SFEI RMP, participates actively in RMP planning, and works with the SFEI staff, the MP Steering Committee, and the RMP Review committee. SCVURPPP helps to ensure that the SFEI RMP activities are integrated with the BASMAAA Regional Monitoring Strategy, the WMI, the South Bay TMDL Process, and the Regional Board’s Regional Monitoring Assessment Strategy (RMAS). The RMP acts as a sampling station at the mouth of the Coyote Creek (Station BA10) for water quality and toxicity, sediment characteristics and toxicity, and bivalve tissue monitoring.

6.3.10.5 Targeted Assessment and Monitoring of Water-Quality and Biological Indicators in Coyote Creek

Under a grant from the Water Environment Research Foundation (WERF), the SCVURPPP tested 20 of the 26 environmental indicators in the Center for Watershed Protection’s Stormwater Indicator methodology. The objectives of the Stormwater Environmental Indicators Demonstration Project (SEIDP) are to evaluate the usefulness, effectiveness, and applicability of the Stormwater Indicator Methodology under semi-arid conditions. The indicators were applied to the 310 square mile Coyote Watershed and to the 28 acre Walsh Avenue industrial catchment. The indicators tested and refined for the Coyote Creek Watershed included the following:

- Sediment Characteristics and Contamination
- Stream Widening and Downcutting
- Physical Habitat Monitoring
- Increased Flooding Frequency
- Public Attitude
- Public Involvement and Monitoring
- User Perception
- Illicit Discharges Identified/Corrected
- Permitting and Compliance
- Growth and Development

The project included a review and assessment of the existing urban runoff pollution prevention program, analysis of existing data, and field collection of new data. The environmental indicators in the Coyote Watershed were used to conduct temporal and spatial comparisons between upstream reference stations and downstream urban stations. Based on this study, the SCVURPPP initiated an approach to watershed assessment involving watershed-specific data, and will use the approach to conduct an integrated pilot assessment of the watershed.

Additional information about the SEIDP study is located in Appendix B.

6.3.11 Emerging Contaminants

There are numerous emerging contaminants impacting District source waters, waterways and groundwater basins. Some of these include N-Nitrosodimethylamine (NDMA), endochrine disruptors, pharmaceutically active compounds (PhAC), ethyinyl estradiol or other contaminants that may be present at either the ppb or ppt level in various aquatic habitats. As more information about the effect, sampling techniques, health impacts and source of these contaminants becomes available, it is expected that additional water quality issues will arise that will require additional District sampling and analysis.

Significant research about some of these emerging contaminants is being conducted at universities and laboratories around the country. For further information about these issues, the reader is referred to local library search engines, such as Gladis, Melvyl or a similar site.

6.4 References

1. SCVURPPP Monitoring Ad-Hoc Task Group, Draft Interim Five-Year Receiving Waters Monitoring Plan, January 2001, EOA.

2. SCVURPPP FY 2001-2002 Draft Work Plan: Section 4 – Interim Draft Five-Year Receiving Waters Monitoring Plan and FY 01-02 Annual Monitoring Plan, March 1 2001, EOA.

3. SCVURPPP, Coyote Creek Watershed Integrated Pilot Assessment Monitoring Plan.

4. SCVURPPP, Project Plan, Coyote Watershed Integrated Pilot Assessment (SC 27.11), March 2001. (Attachment 4-3 to FY01-02 Annual Work Plan).

5. SCVURPPP, FY 2000-2001 Draft Work Plan for Implementation of the Santa Clara Valley Urban Runoff Pollution Prevention Program's Urban Runoff Management Plan (URMP), Section 4. March 2000.

6. SCVWD Draft Stream Maintenance Program. March 2001.

7. SCVWD Draft Stream Maintenance Programmatic Environmental Impact Report. March 2001.

8. SCVWD, Integrated Water Resources Plan. January 1997.

9. SCVWD, Integrated Water Resources Plan, Implementation Plan. June 1999.

10. SCVWD, Urban Water Management Plan – Draft. January 2001.

11. SCVWD, Water Utility Enterprise Report (Preliminary). April 2001.

12. SCVWD, Water Supply and Distribution Facilities (brochure). July 1998.

13. State of California, State Water Rights Board, License for Diversion and Use of Water, February 27, 1962.

Chapter 7 Current and Planned Watershed Projects

This chapter summarizes the major projects planned by the District and other local stakeholders that may contribute to the attainment of the District's Ends Policy in the Coyote Watershed. Where available, detailed information on a particular project is presented in Appendix B. Agencies surveyed for information included:

- Association of Bay Area Governments
- City of Milpitas
- City of San Jose
- San Francisco Estuary Institute
- San Jose Redevelopment Agency
- Santa Clara County – Parks
- Santa Clara County Open Space Authority
- Santa Clara Valley Water District
- Santa Clara Valley Urban Runoff Pollution Prevention Program
- Watershed Management Initiative

This section is intended to be a comprehensive listing of major projects or programs with specific activities impacting the Coyote Watershed. There are likely to be projects not currently identified in this chapter or other sections of the Plan, and additional projects not currently included in this Plan will be included as the information becomes available. Projects are sorted by agency, with projects led by the District summarized first, followed by projects undertaken by other agencies.

7.1 SCVWD Planned Flood Protection Projects

The Coyote Watershed Program is implementing several major capital projects within the Coyote Watershed. These efforts include the completion of all planning, environmental documentation, permitting, right-of-way acquisition, design, utility relocations, construction, and facilities start-up, along with multi-objective planning to accommodate the Board's Ends Policy. These projects will provide protection from the 1% flood flows for local residents, and in some places habitat restoration, recreational opportunities and project enhancements. Projects that are currently planned or underway include those listed in Table 7-1, with more detailed information about each project in Appendix B. A map showing the project locations for each of these projects is included as Map 7-1. Program level cost estimates have been developed for each of the projects, which include costs for project implementation, planning, permitting, design, and construction management. Budgets have also been established for right-of-way acquisition and environmental mitigation.

TABLE 7-1: LIST OF CURRENT COYOTE WATERSHED FLOOD PROTECTION PROJECTS

Creek	Location
Berryessa/Calera Creek	Berryessa: Calaveras Road to Piedmont Road Calera: Berryessa Creek to Escuela Parkway
Coyote Creek	Rock Spring – Old Oakland Road South Bay Mobile Home Park – Phelan to Wool Creek
Lower Silver Creek	Coyote Creek to Lake Cunningham
Thompson Creek	Entire length
Upper Penitencia Creek	Coyote Creek to Dorel Avenue

U.S. Army Corps of Engineers Berryessa Creek Project: As a major tributary of Coyote Creek, Berryessa Creek drains a large area in the City of Milpitas and a portion of the City of San Jose. The U.S. Army Corps of Engineers (Corps) Berryessa Creek Project extends from Old Piedmont Road in the City of San Jose to downstream of Calaveras Boulevard in the City of Milpitas.

On average, Berryessa Creek floods once every four years. The most recent flood in 1998 resulted in significant damage to homes and automobiles. To respond to these flooding concerns, the Corps prepared a plan for flood protection in 1993 which was eventually rejected by the local community due primarily to the concrete channel features that were recommended. A Project Study Plan was then prepared in July 1996 to identify a more environmentally sensitive flood protection alternative. However, due to a lack of funding and unresolved issues, all work related to this project stopped in October 1996.

Because flooding is still a major concern along Berryessa Creek, the District has requested that the Corps re-evaluate alternatives that provide flood protection in an environmentally sensitive way that is acceptable to the local community. As a result, the District and the Corps have undertaken preparation of a project plan for Berryessa Creek. The primary objective of this project is to ensure flood protection from a 100-year flood event, improve creek maintenance while enhancing riparian and fisheries habitat, and provide recreational access to the public. The Corps is currently evaluating existing creek conditions and will start developing alternatives that meet the project's objectives. These alternatives may include one or more of the following: increasing levee height, constructing off channel detention ponds, or constructing flood walls or set back levees. The planning and design phase is underway and is scheduled to be finished by January 2006. Construction is scheduled to begin in July 2006 and to be finished in October 2008.

Lower Silver Creek between Coyote Creek and I-680: The purpose of this project is to protect the local community from the 100-year flood event. The project also facilitates fish passage, improves riparian and aquatic habitat, constructs a low-flow channel with resting pools and vegetation planting along the creek. The objectives of the project consist of increasing the amount of riparian and/or upland habitat along the sides of and in the Lower Silver Creek channel while continuing to provide protection from the 100-year flood; making the channel potentially more attractive to fish by including a defined low-flow channel for all new channel work; and enhancing the value of wetland habitat.

A total of 3,800 buildings were identified as being located in the local flood-prone area, with 1,400 buildings likely to experience interior flood damage. The existing stream channel has a capacity to carry a 20 percent or 5-year event. The total drainage area, beginning at the confluence with Coyote Creek, is 44 square miles.

Lower Silver Creek, between Coyote Creek and Interstate 680, is divided into two construction reaches. The first reach begins at the Coyote Creek confluence near U.S. Highway 101 and is approximately 5,000 feet (0.95 miles) in length, and traverses a highly developed industrial and residential area to the McKee/King Road intersection. Lower Silver Creek Reach 2/3 begins at the McKee/King Road intersection and terminates at Interstate 680, traversing several land uses adjacent to the creek including schools, parks, commercial, and residential development.

Lower Silver Creek between I-680 and Lake Cunningham: The purpose of this project is to ensure flood protection from the 100-year flood event. The project also provides fish passage and improved riparian habitat by eliminating barriers, constructing a low-flow channel with resting pools and planting vegetation along the creek. The objectives of the Plan consist of increasing the amount of riparian and/or upland habitat along the sides of and in the Lower Silver Creek channel while continuing to provide the same level of flood protection; making the channel potentially more attractive to fish by including a defined low-flow channel for all new channel work; enhancing the value of wetland habitat; and reducing the amount of concrete channel presented in the 1983 recommended plan.

The Reach 4 Lower Silver Creek project begins at Interstate 680 and ends at the confluence with North Babb Creek. The length of this phase is approximately 3,820 feet (0.75 miles), and runs primarily through residential developments. Reach 5 begins at North Babb Creek and ends at the South Babb Creek confluence, while Reach 6 extends from South Babb Creek to Cunningham Avenue. The area is primarily residential up to Moss Point Drive, with a mixture of undeveloped parcels, parks, and residential development near the creek. The upstream limit of this phase is Cunningham Avenue near Lake Cunningham.

Coyote Creek Outdoor Classroom: Following a flood in January 1997 that destroyed three homes adjacent to Coyote Creek on East William Street in San Jose, the District desired to construct a facility to teach tomorrow's leaders about the dangers of flooding and the importance of caring for Santa Clara County's streams. The site includes a gazebo to provide an outdoor classroom for students and teachers, a platform where students and teachers can view and appreciate a natural creek habitat, and a groundwater monitoring well from which students can observe and discuss the underlying groundwater aquifer and the water in the county’s creeks. There are also two planting areas: a riparian planting with native vegetation adjacent to the creek, and a “high terrace” or upland area landscaped with oaks, grasses and other native plants to demonstrate drought-tolerant gardens. Most non-native plants have been removed and replaced with native plants to promote a natural setting.

Water district staff will lead approximately 20 field trips per year to the Coyote Creek Outdoor Classroom during the dry season. Groups of 20 to 30 students, accompanied by teachers and staff, will arrive in school buses and park on-site. Students will be taught to safely sample and evaluate water from the creek, examine a groundwater monitoring well and use that well to study the groundwater quality and discuss the connection between the groundwater and the water in the creek. Students and teachers will be given the opportunity to survey plant and animal life in the creek. For information on how to book a tour/event, contact Kathy Machado at (408) 265-2607 ext. 2331.

South Bay Mobile Home Park Flood Wall: This project would construct a flood wall to replace a temporary sandbag wall on Coyote Creek between Oakland and Berryessa Road. This wall would provide 1% flood protection to the existing mobile home park, and construct a permanent wall meeting applicable structural and geotechnical engineering standards. The wall is scheduled to be constructed in late 2001 at a cost of approximately $230,000.

Rock Spring Flood Protection Project: This project will provide flood protection to the Rock Spring neighborhood in the City of San Jose and reduce pollution of receiving waters which occurs when creeks flood into urban areas. The preferred project is to purchase right-of-way and construct approximately 1,500 lineal feet of levee adjacent to Coyote Creek. The neighborhood suffered severe damages to approximately 25 apartment buildings in January 1997 when Coyote Creek flooded in the vicinity of the Rock Springs neighborhood. This event was estimated to be a 15-year event. The neighborhood was threatened in February 1998 when Coyote Creek was within a foot of flooding the neighborhood. In January 2000, the District and the Corps signed a Feasibility Study Cost Sharing Agreement and the study commenced.

Upper Penitencia Creek Flood Protection Project: Within the last twenty years, Upper Penitencia Creek has experienced severe overbanking that resulted in damages within the watershed such as flooding of residential, commercial and industrial properties, and erosion of the levees. In 1990, the Natural Resources Conservation Service, developed a plan to provide a 1% or 100- year storm level protection to the 24 square mile watershed to prevent future flood damage while minimizing impacts to native riparian habitat. The project consists of a combination of modified floodplains, floodproofing, and bypass channels. The District decided to design Reach 1, known as the Upper Penitencia Creek Bypass Project, prior to the remainder to the project.

The Upper Penitencia Creek Bypass Project will construct a flow diversion structure starting approximately 200 feet upstream of King Road, which will divert flows exceeding the natural channel conveyance capacity into a covered concrete bypass channel approximately 2,500 feet long, and drain into Coyote Creek approximately 1,200 feet upstream from the natural channel confluence. This project will traverse the future BART alignment and projected BART station. The bypass location has been established to minimize its length, make use of available land, and minimize adverse impacts to the riparian corridor and private properties. In addition to providing flood control, the project is also being designed to incorporate the City of San Jose Parks Department’s plan for the development of a multiuse trail.

Flood protection on the remainder of the creek will also be designed to convey the 1% flood. Other creek modifications associated with this project are expected to include a new percolation pond, mitigation site and fish ladder, pending the outcome of the Fisheries and Aquatic Habitat Collaborative Effort (FAHCE) process. In addition, there are plans to relocate an existing 66-inch treated potable water pipeline near the Coyote Creek confluence to allow for the construction of a new bypass channel connecting Coyote Creek to Upper Penitencia Creek. Further design details will be developed as additional study work is completed by the District and USACOE.

Silver Thompson Creek Project: The purpose of the project is to update local hydrology for the watershed upstream of Lake Cunningham. In conjunction with hydrology review, a second goal is to study the reasons why excessive amounts of materials and debris accumulate in the channel above Lake Cunningham. Large accumulations of sediment have clogged the Lower Silver and Thompson Creeks around the Lake, and will be removed by the District under another project, but the work necessary to prevent such a build up will be addressed under this project.

Finally, Lake Cunningham has been planned to act as a regional floodwater detention reservoir as well as a regional recreational facility. The final improvements were not finished at the time of construction of the lake and will be completed under this project.

The District proposes to conduct sediment removal activities along a 1.5-mile reach of Lower Silver and Thompson Creeks. The purpose of the project is to alleviate local flooding problems and to meet the requirements of the Federal Emergency Management Agency (FEMA) for flood protection. There has been frequent flooding of Lake Cunningham Park area. The proposed creek modification is to remove approximately 200,000 cubic yards (cy) of accumulated creek in this reach. Due to the large volume of sediments and regulatory requirements, work will proceed in phases. An annual project to remove 50,000 cy of sediments is planned between 2002-2006.

Clean Safe Creeks and Natural Flood Protection – Measure B: This recently passed ballot measure allows the District to levy a benefit assessment on parcels within Santa Clara County to fund the design and construction of flood protection, clean water, healthy ecosystem and recreational projects. It is expected that the measure will raise approximately $25,000,000 annually to fund District flood protection, water quality, ecosystem and recreational projects. A summary of the Clean Safe Creeks and Natural Flood Protection Measure is included below.

> *Measure B: SANTA CLARA VALLEY WATER DISTRICT CLEAN, SAFE CREEKS AND NATURAL FLOOD PROTECTION: The Santa Clara Valley Water District will replace an expired program assessment with a special parcel tax, as provided in District Resolution No. 2000-44, to: protect homes, schools, businesses and roads from flooding and erosion; protect, enhance and restore healthy creek and bay ecosystems; provide additional open space trails and parks along creeks; and provide clean, safe water in our creeks and bays.*

This proposition is a 15-year plan to preserve and protect the quality of life within Santa Clara County. The Plan will further the District's goals of comprehensive flood protection and stream stewardship. Funding of specific projects within the Coyote Watershed has already been identified, including multiple-objective flood protection projects on Berryessa and Coyote Creeks. It would also be anticipated that the overall projects targeted by these plans would seek partial funding from State and Federal sources. A summary of the overall allocation of dollars and projects is shown below in Table 7-2.

TABLE 7-2: SUMMARY OF CLEAN, SAFE CREEKS AND NATURAL FLOOD PROTECTION MEASURE

Project	Funding ($mil)
Flood Protection **Berryessa Creek between Montague Expressway and Highway 237** Protect 1,810 parcels, encourage Fish Migration, potential creekside trail **Coyote Creek between Montague Expressway and I-280** Provide 1% flood protection between Montague Expressway and I-280	$18.6
Clean, Safe Water in Creeks and Bays Reduction of pollution from urban runoff – participation in special studies and watershed monitoring activities, and developing and implementing District BMPs Impaired water bodies improvement – activities supporting current state and federal regulations performed jointly with community and local agencies. Litter and graffiti clean-up along creeks – dedicated staff for creek inspection, cleanup of illegally dumped items, and removal of graffiti, and expanded Adopt-a-Creek program.	$2.5

Project	Funding ($mil)
Surface water quality protection – participate with other agencies and community organizations in pollution prevention and reduction efforts.	
Ecosystems are Protected, Enhanced or Restored Vegetation management – regular removal of nonnative plants from channels, planting and maintenance of native species Habitat restoration – use existing District right-of-way and additional purchased property for conservation purposes; partnering with others, restore creekside vegetation, remove fish migration barriers, and protect habitat for endangered fish and wildlife species	$3.4
Additional open spaces, trails and parks Additional trails and open space – partner to purchase open space and construct projects in the County Trails Master Plan by incorporating trails, parks, and recreational values into existing or new flood protection projects	$1.0
Total Annual Funding	$25.5

Reference: SCVWD, Beyond 2000: Clean, Safe Creeks and Natural Flood Protection

Future Flood Protection Projects: The District maintains a model of the current flood conveyance capacity in all creek reaches within the District's service area, including the Coyote Watershed. This model is utilized to determine where flood capacities are not conveying the 1% flood flow. Utilizing land use assumptions published in city and county planning documents, the model projects the required capacity to accommodate growth and land development within the Urban Growth Boundaries. In 1993, projects were identified and prioritized to address predicted inadequacies. Some of the projects summarized in Section 7.1 were originally identified based on the results of this model. Additional identified projects required to protect all creeks in the Coyote Watershed from the 100-year flood are summarized in Table 7-3 (SCVWD, Waterways Management Model, 1993).

TABLE 7-3: COYOTE WATERSHED AREAS NOT CURRENTLY PROTECTED FROM 100-YEAR FLOOD

Creek	Location of Required Improvement
Coyote Creek	Montague Expressway – Highway 101 Highway 101 – Highway 280 Highway 280 – Highway 101 Highway 101 to Metcalf Road Metcalf Road to Anderson Dam
East Penitencia Creek	Lower Penitencia Creek – LOJ
Fisher Creek	Coyote Creek – Bailey Avenue Bailey Avenue – LOJ
Fowler Creek	Earth Berm - LOJ
Los Coches Creek	Berryessa Creek – Highway 680 Highway 680 – Temple Drive
Miguelita Creek	Lower Silver Creek – Toyon Road
North Babb Creek	Lower Silver Creek – Mahoney
Quimby Creek	u/s Apperson – LOJ
Sierra Creek	Berryessa Creek – Mauna Kea Street Mauna Kea Street – LOJ
South Babb Creek	Lower Silver Creek – u/s Clayton
Upper Silver Creek	Highway 101 – Place Way Place Way – Silver Creek Road

LOJ = Limits of jurisdiction
u/s = upstream
d/s = downstream

Funding is not currently available to fund these improvements. The District has preliminarily sequenced the design and construction of these flood protection projects over the next 40 years (Talley, 2000), but no scope, budget or contracts have been executed to date for these projects. However, it is theorized that these projects will be implemented in priority order as funding becomes available.

The projects selected for construction were identified based on decision criteria with weighting factors for each criteria summarized in Table 7-4 (SCVWD, August 2000). These weighting factors may be reevaluated or reweighed, based on Board input. Projects ranking highest on the list are generally projects identified in Section 7.1, and are at various stages of completion.

TABLE 7-4: PRIORITIZATION CRITERIA AND WEIGHTING FOR FLOOD CONTROL PROJECTS

Criteria	Weighting
Reduce flood damages – dollar value of average annual flood damages	50.0%
Protect developed areas – total acres of developed land subject to flooding.	7.6%
Construct reaches between previously improved reaches – is inadequate reach between completed reaches? Yes/No	4.6%
Rehabilitate previously constructed facilities – a previously constructed facility does not provide adequate protection due to subsidence, erosion, flow rate change, etc.	7.0%
Protect areas of proposed development – total acres of vacant land subject to flooding which is proposed to be developed in future according to city plans (Urban Service Area)	3.1%
Protect downstream reaches – miles of inadequate channel downstream of reach.	4.9%
Reduce maintenance costs – cost of maintaining existing channel per mile of reach.	5.4%
Encourage multipurpose uses – acres of land or miles of creek which are used or will be used jointly for recreation, groundwater, recharge, etc.	5.5%
Reduce flood insurance costs – estimated annual cost of required flood insurance	6.0%
Protect historically flooded areas – number of years flooded or area of historic flooding	6.0%
Total	**100.0%**

7.2 Additional SCVWD Planned Watershed Projects and Activities

The District is leading a number of other projects in the Coyote Watershed related to stream maintenance, vegetation, wetlands mitigation, stream flows and non-point source prevention. A list of projects currently underway is summarized below:

- Adopt-a-Creek
- Annual Maintenance
- Fisheries and Aquatic Habitat Collaborative Effort
- Maintenance Wetlands Mitigation Project
- Multi-Species Habitat Conservation Plan
- Natural Resources Management Program
- Non-Point Source Pollution Prevention Program
- Solids Material and Waste Management Project
- Stream Maintenance Program
- Wetlands Vegetation Recovery Study

Brief descriptions of each project are summarized in this section.

Adopt-a-Creek: The Adopt-a-Creek program offers the general public a chance to participate in creek cleaning projects within Santa Clara County. Helping with this program is a great way for schools, community organizations and private companies to demonstrate their concern about the environment. Participating groups will be expected to organize a minimum of two clean-up events per year for their site. There are six stream reaches in the Coyote Watershed that have been adopted by various organizations.

Annual Maintenance: The District conducts Annual Maintenance on many creeks throughout the Coyote Watershed. Typical maintenance projects may include sediment removal, vegetation management or bank protection activities within creek corridors. Some activities require environmental assessments prior to implementation, but typical maintenance activities under this umbrella do not require permits from the Army Corps of Engineers or impact any ESA habitats. As an outgrowth of the annual permit process allowing the District to perform these activities, the District has monitored turbidity and refined BMPs, which have been incorporated into the SMP. In addition, in areas where vegetation management is an issue, tracking of regrowth is underway as a part of the Wetlands Vegetation Recovery Study.

Fisheries and Aquatic Habitat Collaborative Effort: The FAHCE is a cooperative, multi-party stakeholder process for resolving a water rights complaint against the District filed before the State Water Resources Control Board (SWRCB) for alleged violations relative to cumulative impacts on salmon and steelhead and their habitats. This process is primarily focused on creeks where the District has control over water flows, which are the Coyote and Upper Penitencia Creeks in the Coyote Watershed. This project is being coordinated with the California Department of Fish and Game (CDFG), the National Heritage Institute (on behalf of the Guadalupe-Coyote Resource Conservation District (GCRCD), National Marine Fisheries Service (NMFS), United States Fish and Wildlife Service (USFWS) and the City of San Jose. It is expected that once the studies and data collection activities are completed, a negotiated settlement will result. As a result, timing and location for implementation of specific projects, activities or studies are unknown at this time. A list of existing stream passage blockages on Coyote Creek has been identified, and is geographically located in Map 7-2. Some of these passages may have to be removed to facilitate fish passage to rearing and spawning areas in Coyote and Upper Penitencia Creeks.

Maintenance Wetlands Mitigation Project: The Maintenance Wetlands Mitigation Project is intended to comply with the existing and anticipated wetland mitigation permit and environmental review for the 1997, 1998 and future stream maintenance work. This project will identify, design and implement compensatory mitigation projects resulting from projects occurring within in-stream wetlands resulting from maintenance activities. Specific mitigation banking sites have already been identified (e.g. Cargill, Guadalupe Creek), and other sites identified will be purchased, prepared and restored as needed. Projects such as the Stream Maintenance Program, or Coyote Watershed Flood Protection Projects, could utilize areas identified by this project for wetlands mitigation.

Multi-Species Habitat Conservation Plan: The Multi-Species Habitat Conservation Plan (HCP) will develop a conservation plan for listed and potentially listed species throughout the District in compliance with the Federal Endangered Species Act. It is intended to streamline District permitting processes by eliminating individual "take" permit applications. There are approximately 50 species of concern within the aquatic, riparian and upland habitats of the District's service area, including the yellow-legged frog, burrowing owl, clapper rail and salt marsh harvest mouse. The SMP is dependent on completion and approval of the HCP to obtain regulatory approval for maintenance activities in ESA habitat locations.

Natural Resources Management Program: The Natural Resources Management Program project will inventory, monitor and assess the natural resources associated with District activities, and identify measures to mitigate for any impacts to these resources. It is desired that the collection of this information will streamline District implementation of the environmental review process, reduce project timelines, and provide a consistent level of environmental review to all projects. Both aquatic and terrestrial resources will be inventoried.

Santa Clara Valley Urban Runoff Pollution Prevention Program: The Santa Clara Valley Urban Runoff Pollution Prevention Program is actually a consortium of 15 agencies, a.k.a. copermittees, in Santa Clara County whose purpose is to protect aquatic habitat, recreational water uses and local water supplies by preventing pollution associated with storm water runoff. The copermittees, through SCVURPPP, are permitted by the RWQCB for stormwater discharges. Since the District is responsible for water quality in the stream corridors, but the cities are responsible for storm drain management, coordination through the SCVURPPP is important to reduce pollutant loadings to the storm drains, streams and eventually the San Francisco Bay. A number of projects with the purpose of identifying specific water quality issues in the creek corridors associated with the SCVURPPP are ongoing, and some are summarized in Section 7.4.

Solid Materials and Waste Management Project: The Solid Materials and Waste Management Project is intended to identify cheaper, cost-efficient and streamlined methods for the disposal of solid waste generated by the District. All facilities generating solid waste streams generated by the District, including but not limited to, stream maintenance channels, water treatment plants and other District facilities and project sites are covered by this project. Implementation of recommended strategies is scheduled for April 2001.

Stream Maintenance Program: The Stream Maintenance Program (SMP) is identifying sediment removal and erosion control areas throughout the Santa Clara Basin requiring District action. This project is currently under environmental review. Sediment control areas in Coyote are largely focused in the Berryessa Watershed and Lower Silver Creek watersheds, with other smaller areas of historic sediment removal in Coyote, Upper Penitencia and Upper Silver Creeks. Historic erosion control areas are largely in similar locations along Upper Silver, Berryessa and Lower Penitencia Creeks. Maps locating both of these areas are included as Map 3-9 and 3-10 in Chapter 3. The SMP is designed to provide long-term guidance to the District to effectively implement routine stream maintenance projects. The SMP environmental documentation process is currently ongoing, and the draft EIR is out for public comment.

Wetlands Vegetation Regrowth Study: The Wetlands Vegetation Regrowth Study is studying the regrowth of vegetation in flood control channels after sediment removal projects have occurred. It will help provide some background information for assessing the environmental impacts associated with sediment removal activities. Vegetation regrowth is of specific concern, and results from this study could influence the scheduling of future stream maintenance and vegetation removal activities.

7.3 Planned Watershed Projects by Other Organizations

Other agencies, organizations, and groups are currently undertaking or planning watershed improvements in the Coyote Watershed, as described in Table 7-5. The table lists large-scale programs or studies and may not reflect all the individual projects. The listed activities may provide specific or localized results that can be transferred to or applied within Coyote Watershed, or they may be more comprehensive in scope and coverage than this Plan. The District will continue its efforts to coordinate appropriately with each indicated project to ensure alignment of principles, support, and efficiency of execution.

Table 7-5: Current of Planned Coyote Watershed Projects, Activities and Studies by Non-District Agencies

Project Title	Project Locations	Agencies	Project Type	Purpose	Issues/ Linkages	Ends Policy Opportunities
Bay Area Ridge Trail	Along Coyote Creek	Association of Bay Area Governments	Plan	To construct an interconnected trail circling the San Francisco Bay	Creekside trails, accessibility of District Easements	Opportunity for beneficial use of District Facilities
City of San Jose: Parks Master Plan "Greenprint"	Many locations in San Jose	City of San Jose	Plan	Master Plan for development and maintenance of City of San Jose parks	RRAP, District Easements	Opportunity to expand recreational facilities
City of San Jose: Riparian Restoration Action Plan	San Jose	City of San Jose	Plan	Overall policy framework for riparian restoration within city corridors	Coordination with District riparian improvements; template could be applied beyond San Jose	Potential unified approach to riparian corridor improvements within District
City of San Jose: South Bay Water Recycling, Environmental Enhancement Project	Coyote Creek at Singleton Road	City of San Jose/SCVWD	Pilot Study	Feasibility study of use of recycled water for streamflow augmentation	Balancing discharge of effluent to stream or to bay; providing low-flow fish passage	Fish passage/ spawning
General Plans of Cities and County	Throughout Coyote Watershed	Santa Clara County, City of San Jose, City of Milpitas	Plan	Helps guide governing policies of municipalities	Update of General Plan is opportunity for policy coordination	
Santa Clara County Open Space Authority: 5-year plan	Undeveloped areas in upland areas	Santa Clara County	Plan	Planning of Open Space Authority land acquisitions and prioritization	Palassou Ridge	Opportunity to enhance quality of life

Project Title	Project Locations	Agencies	Project Type	Purpose	Issues/ Linkages	Ends Policy Opportunities
Santa Clara County: Parks Master Plan	To be developed during 2001-2002	Santa Clara County	Plan	Master Plan for development and maintenance of Santa Clara County Parks	RRAP, District Easements	Opportunity to expand recreational facilities
SCVURPPP: Factors Affecting the Distribution of Lotic Macroinvertebrates in an Urban Setting	Coyote at Penitencia	SCVURPPP USGS	Monitoring Study	Determine influences to urban stream macro-invertebrate population	Relationship between urbanization and aquatic habitat	Manage aquatic habitat in urban areas
SCVURPPP: First Flush Monitoring Project	Twelve sites along Coyote and Lower Penitencia Creek	SCVURPPP City of San Jose	Monitoring Study	Goal is to model storm water runoff and perform a loads assessment to determine where major sources of pollutants are originating.		
SCVURPPP: Illicit Connection/Illegal Discharge (IC/ID) and Industrial Inspection Programs		SCVURPPP City of San Jose	Plan/ Operations/ Standards	Identify and eliminate non-permissible discharges to the stormwater system	SCVURPPP program, operator training, regional coordination of standards	Improved stormwater quality, stream health, public health
SCVURPPP: Stormwater Environmental Indicators Demonstration Project (SEIDP)	Twenty-three sites along Coyote Creek	SCVURPPP	Monitoring Study	Stormwater BMP benefit testing	Relationship between urbanization, aquatic habitat and impact of BMPs	Improved stormwater quality, stream health, public health
SFEI: RMP Estuary Interface Pilot Study, Phase II	Coyote at San Francisco Bay	San Francisco Estuary Institute	Monitoring Study	Develop regional estuary pollutant monitoring design	Consistent and reliable data	

Project Title	Project Locations	Agencies	Project Type	Purpose	Issues/ Linkages	Ends Policy Opportunities
SFEI: RMP for Trace Substances	3 locations	San Francisco Estuary Institute and 78 partners	Monitoring Study	Measure toxic trace elements in the estuary and relate to pollution prevention and reduction measures	Coyote Creek cumulative effects of upstream controls	Improved stormwater quality, estuary health, public health
Transportation plans	Varies, see Chapter 3	VTA, Caltrans, BART, City of San Jose, City of Milpitas	Projects/Plan	Expansion of street and highway capacity	Stream crossings – opportunity to minimize impact to creek	
Watershed Management Initiative	Entire Watershed	Initiated by EPA and State; multiple local and regional partners	Study/Plan	Major, multi-agency, effort to develop Watershed Action Plan for the Santa Clara Basin	Coyote Watershed within WMI planning area; goals and objectives are similar	Significant opportunity to identify additional watershed improvements that District could support
City of San Jose: Strong Neighborhoods Initiative Plans	Throughout Coyote Watershed	City of San Jose	Plan	Develops local neighborhood action plans and organizes community input.	Various – include input into design of FP projects and construction of trails.	Opportunity for support for additional recreational features.

7.4 References

1. City of Milpitas, Milpitas Trails Master Plan, 1998.
2. City of San Jose, Coyote Creek Streamflow Augmentation Pilot Project – Initial Stud/Mitigated Negative Declaration, May 2000.
3. Metropolitan Transportation Commission, 1998 Regional Transportation Plan for the San Francisco Bay Area, Amended May 1999.
4. Randy Talley, SCVWD, personal communication, 2000.
5. San Francisco Bay Area Rapid Transit District, Fiscal Year 2000 – Capital Improvement Program, July 1999 through June 2010, Adopted September 9, 1999.
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14. SCVWD, Beyond 2000: Clean, Safe Creeks and Natural Flood Protection, 2000.
15. SCVWD, Coyote Watershed Program Monthly Progress Report, August 2000.
16. SCVWD, Coyote Watershed Program, Project Descriptions for Berryessa Calera Creek, 2000.
17. SCVWD, Coyote Watershed Program, Project Descriptions for Coyote Creek Outdoor Classroom, 2000.
18. SCVWD, Coyote Watershed Program, Project Descriptions for Lower Silver Creek, 2000.
19. SCVWD, Coyote Watershed Program, Project Descriptions for Quimby Fish Ladder, 2000.

20. SCVWD, Coyote Watershed Program, Project Descriptions for South Bay Mobile Home Park Flood Wall, 2000.
21. SCVWD, Coyote Watershed Program, Project Descriptions for Upper Penitencia Creek, 2000.
22. SCVWD, Emerging Stream Maintenance Issues, Agenda from District Board Meeting, August 2000.
23. SCVWD, Habitat Conservation Plan – progress update memorandum, 2000.
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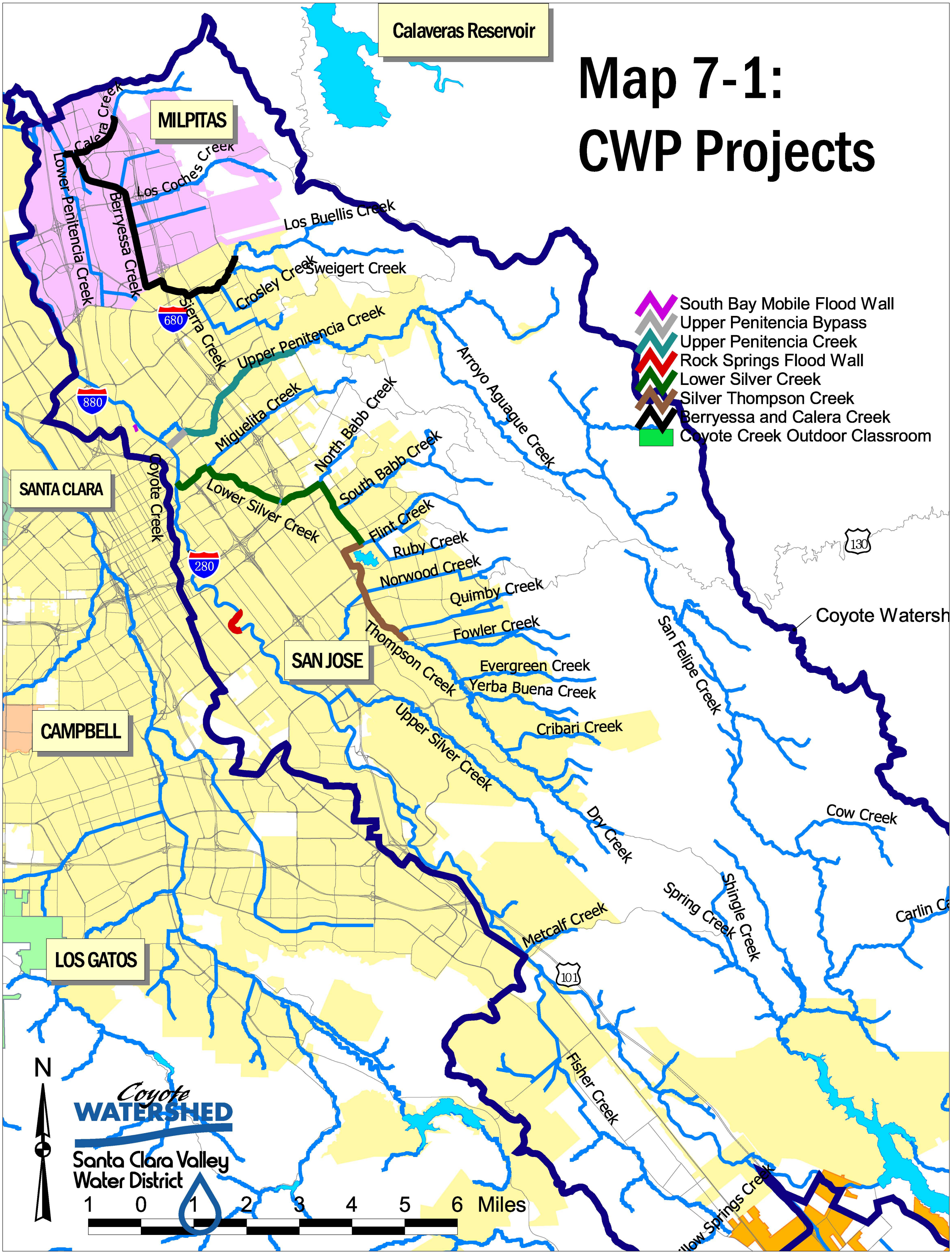
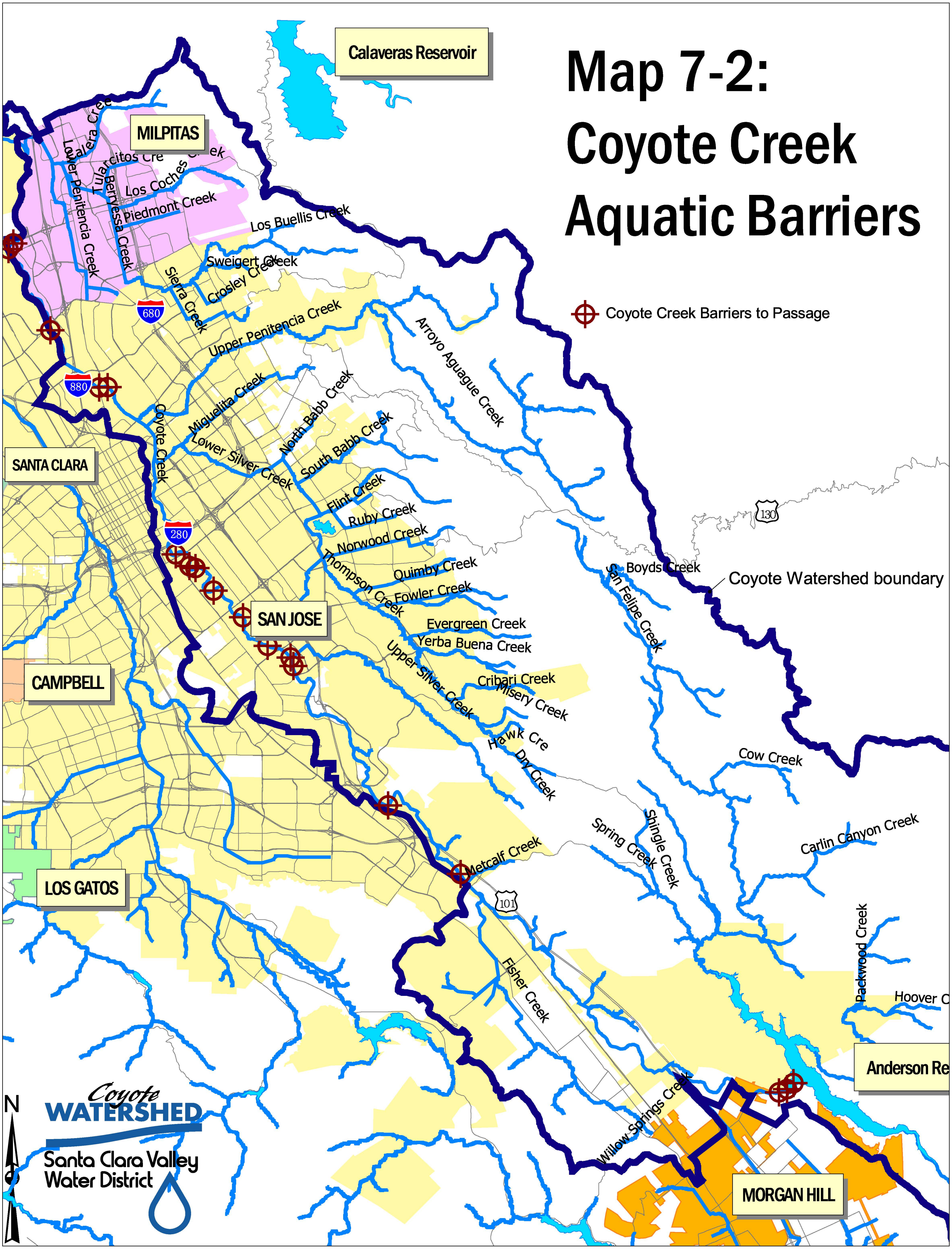
25. SCVWD, Stream Maintenance Program – External Stakeholder Committee meeting minutes and report, August 2000.
26. SCVWD, Stream Maintenance Program – Initial Study and Mitigated Negative Declaration, April 2000.
27. SCVWD, Waterways Management Model, 1993.
28. Watershed Management Initiative, Watershed Characteristics Report – Watershed Management Plan, Volume 1 – Unabridged (draft), 2000.

Map 7-1: CWP Projects



Map 7-2: Coyote Creek Aquatic Barriers



Chapter 8 Watershed Vision and Goals

This chapter presents the District's vision, goals, and objectives for the Coyote Watershed that will serve as the foundation for the development of candidate District projects, programs, activities, and guidelines (Chapter 9). District Staff developed the vision, goals and objectives, with considerable input from members of the Santa Clara Basin Watershed Management Initiative (WMI).

These goals and objectives may be modified in future editions of Plan to reflect outcomes of early tasks and the additional input from area stakeholders. The evolution of goals and objectives is a fundamental component of the adaptive management approach to watershed stewardship.

The planning process necessary to identify detailed projects, programs, activities, and guidelines that will achieve the targeted goals will involve many steps. This first edition of the Plan is intended to lay a foundation for decision-making, launch activities with immediate benefit, and identify further planning steps. Subsequent editions will benefit from the current studies, county-wide initiatives, and public involvement process. Readers should therefore recognize that this edition is not intended to be the final document but rather a starting point.

8.1 Development of Watershed Vision, Goals and Objectives

Specific visions, goals, and objectives for individual watersheds within the District's purview should be consistent with the District's Ends Policy. The Ends Policy provides an opportunity for the District to implement programs and guidelines that contribute towards an improved quality of life, in addition to or as part of projects and activities that provide water supply or flood protection. Where feasible and cost effective, projects, programs, activities, and guidelines should:

- Protect and preserve existing natural stream corridors, including aquatic and riparian habitats and fish passage;
- Manage channel construction and maintenance activities to minimize long-term impact on habitat;
- Utilize natural means for flow management and conveyance;
- Reduce pollutants;
- Reduce or manage channel erosion;
- Eliminate barriers to natural fish passage;
- Link with or extend related tasks such as open space, recreation, and public access;
- Re-establish/restore modified riparian zones to natural state;

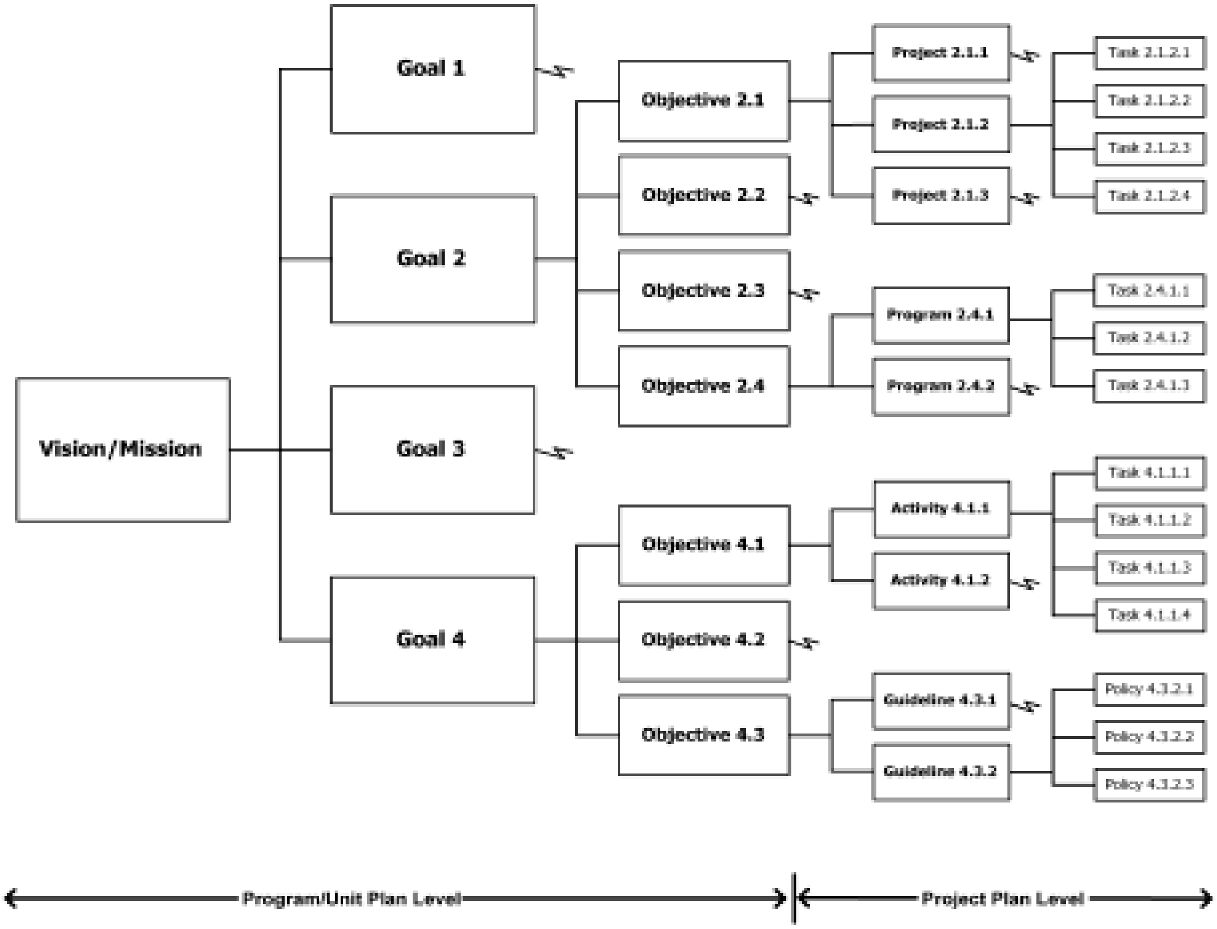
- Restore damaged critical habitat for important aquatic populations; and
- Restore modified channels to natural structure.

Staff identified these principles solely for the purpose of seeding the visioning process with ideas for the vision, goals and objectives.

8.1.1 Interrelationship of Vision, Goals, Objectives, and Projects

The development of the candidate programs, projects, activities, and guidelines was founded on identifying the vision, goals, and objectives for the watershed and then identifying projects that would aid in meeting those. The relationship among these concepts is illustrated in Figure 8-1. Program refers to a broad series of planning or implementation tasks that could be long-term or a continuing, ongoing endeavor. Projects refer to specific tasks that have a definite start and end date and associated budget, such as a specific construction project, or document preparation. Guidelines refer to a set of developed policies that helps direct the District toward achieving the Plan goals and objectives. In Figure 8-1, activities refer to the operations and maintenance (O&M) tasks within or beyond the Coyote Watershed that the District or others would pursue for realizing the vision, goals, and objectives of the Plan.

FIGURE 8-1: INTERRELATIONSHIP OF VISION, GOALS, OBJECTIVES, PROJECTS, PROGRAMS, ACTIVITIES, AND TASKS



8.1.2 Watershed Vision

The development of a sustainable watershed vision is an ongoing process that will involve many stakeholders and incorporate many, often competing, needs and demands. In collaboration with the Coyote Watershed Workgroup, a subgroup of the WMI's Flood Management Subgroup, a Vision Statement was developed by the District in December 2000 to serve as the intended outcome of a successfully implemented Stream Stewardship Plan.

> "The **Vision** of the Coyote Watershed Stream Stewardship Plan is a watershed in which the water resources are managed to provide: living streams; a healthy, safe, and enhanced quality of life for people and wildlife; and improvement of the habitats they occupy."

Goals and objectives were also developed collaboratively by the workgroup and integrated with others developed by District staff.

8.1.3 Geographical Application of Goals and Objectives

Most of the identified impacts or problems in the Coyote Watershed are associated with two aspects of highly developed areas—increased impervious area within the drainage area (and the resulting hydrologic alterations in the stream channels)—and/or direct disturbance of riparian buffers, streambanks, and aquatic habitats.

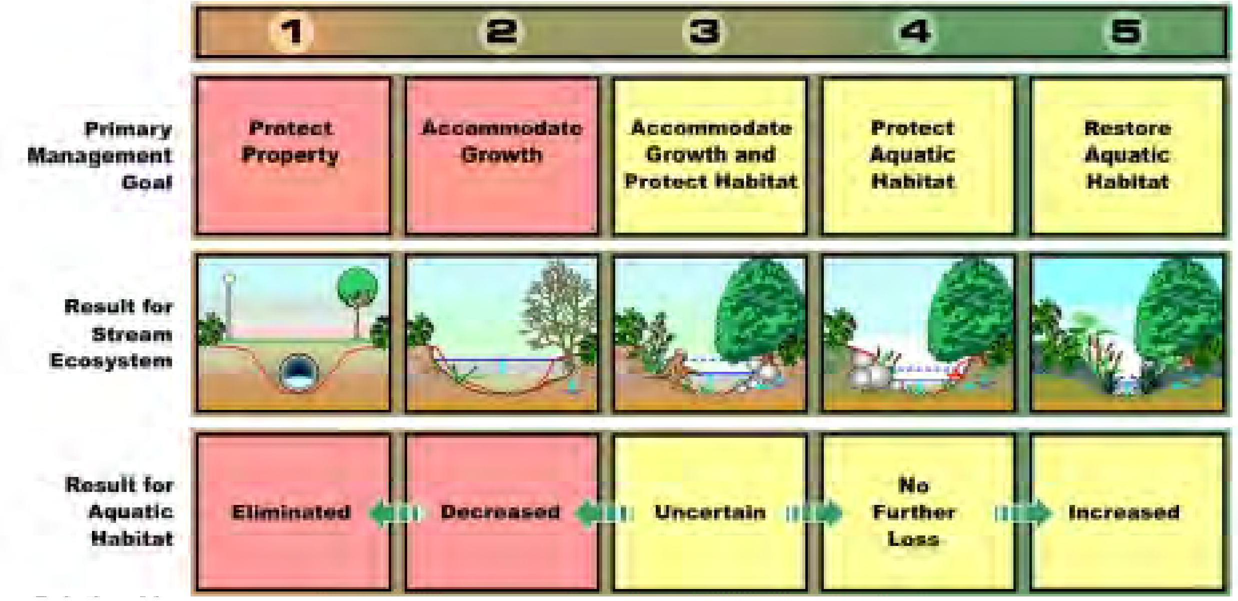
One of the major challenges facing the District is shared by communities throughout the nation—the management of urban stream health following one to two centuries of human impact. Figure 8-2 illustrates one model for evaluating, reach by reach, the relationship between urban goals and resulting stream health.

In highly urbanized areas, management agencies are realizing that complete restoration of all reaches to pre-development conditions may be unrealistic to achieve due to limiting factors such as economic or legal constraints. Those stream reaches that can be preserved or restored to pre-development conditions can be identified as high value reaches and projects to preserve and restore them can be given high priority. Other stream reaches would then be managed as urban streams, with a long-term goal being to improve stream functions. In these reaches, projects to improve and enhance conditions can also be identified, with an understanding by residents and managers that pre-development conditions are not achievable in the near term. The general approach to management of highly urbanized watersheds must balance the ideal against the achievable. While naturally functioning ecological systems are the ideal, it would be a formidable challenge to restore all creeks and streams to this condition following nearly a hundred years of human modifications. A balanced program attempts the following:

- Preserve any reaches that are currently natural, fully functioning ecological systems by strictly controlling any upland, riparian, or instream changes that would diminish the functions (**“High” reaches, designated “preserve high value reaches”**)
- Reduce further impairment of affected reaches and with partially functioning reaches by identifying specific upland or channel corridor improvements that could halt further degradation or possibly improve function (**“Medium” reaches, designated “reduce further impairment”**)
- Maintain existing functions in fully urbanized channels, remove passage barriers, and prevent further degradation but prioritize investment to recreate aquatic/riparian habitat. Implement upland controls as feasible to manage stormwater quality and quantity within target levels. Maintain any existing riparian or aquatic habitat and seek opportunities to possibly improve function. (**“Low” reaches, designated “maintain urbanized channels”**)

Taking a watershed-wide view of problems and potential solutions by identifying and prioritizing stream reaches helps to direct efforts to achieve the highest possible total system function with limited resources. Taking an individual site perspective runs the risk of doing the right thing (fixing a perceived local problem) but not having the right outcome (restoring ecological balance).

FIGURE 8-2. ALTERNATIVE HABITAT MANAGEMENT GOALS FOR URBAN STREAM REACHES



8.2 Goals and Objectives

The District identified the following five main areas of concern:

- Water Supply;
- Flood Protection/Channel Maintenance;
- Environment/Habitat;
- Community Participation/Recreation; and
- Program Implementation.

One goal was identified for each area of concern, with the exception of Flood Protection/ Channel Maintenance, for which two goals were identified.

For each goal, multiple objectives were identified. Tables 8-1 through 8-5 list the six goals and the respective sets of objectives.

8.2.1 Water Supply

The District is the primary provider of potable water for domestic, commercial, and industrial uses in the watershed. A goal with six objectives, as listed in Table 8-1, was developed to guide the development of projects.

TABLE 8-1: STREAM STEWARDSHIP PLAN WATER SUPPLY GOAL AND OBJECTIVES

Goal: Water Supply **To provide an adequate supply of sufficient quality water for all human and wildlife purposes**	
Objective Statement	**Focus of the Objective**
A. Provide a reliable supply of healthy, clean drinking water	Seasonally manage and protect surface water reservoirs, ground water supplies, water reuse, and imported water supplies to meet domestic and commercial requirements for quantity and quality
B. Reduce/manage total potable water demand	Employ water conservation, conjunctive use, water reclamation, and other strategies to reduce/manage potable water demand, thereby freeing up sources for instream use
C. Protect surface water/groundwater supplies to meet or exceed all applicable water quality regulatory standards in a cost-effective manner.	Monitor water quality and take measures to protect recharge zones, reservoirs, and streams
D. Provide adequate water quality and quantity to sustain native fisheries and other aquatic life, and the human community	Manage flow regimes, water temperature, passage, and quality to support seasonal habitat requirements
E. Reduce direct and non-point sources of pollutants in streams	Support SCVURPPP activities to manage introduction of stormwater pollutants as well as identifying and addressing non-urban sources
F. Restore impaired water bodies (TMDLs)	Support TMDL implementation plan, including source monitoring

Abbreviations: SCVURPPP: Santa Clara Valley Urban Runoff Pollution Prevention Program; TMDL: Total Maximum Daily Load

8.2.2 Flood Protection / Channel Maintenance

The District is responsible for managing flood flows in the watershed, while cities and the county are responsible for local stormwater conveyance to streams and channels. The District maintains the channels as a part of its operations. Two goals with a total of nine objectives, listed in Table 8-2, were developed to guide the development of projects.

TABLE 8-2: FLOOD PROTECTION / CHANNEL MAINTENANCE GOALS AND OBJECTIVES

<table>
<tr><td colspan="2">Goal: Flood Protection / Channel Maintenance
<i>Protect humans, wildlife, and property from damaging floods</i></td></tr>
<tr><td>Objective Statement</td><td>Focus of the Objective</td></tr>
<tr><td>A. Minimize expansion of the 1% floodplain</td><td>New development/redevelopment stormwater management to prevent further expansion of the 1% floodplain</td></tr>
<tr><td>B. Reduce potential for flood damages</td><td>Specific flood control improvements, as well as property buyouts</td></tr>
<tr><td>C. Reduce flood insurance costs to homeowners and other property owners</td><td>Anticipate impacts of development on insurance costs and where possible coordinate floodplain improvements to manage adverse impact on developed properties</td></tr>
<tr><td>D. Maintain existing flood protection facilities in an environmentally sensitive manner</td><td>Design new flood protection facilities and review previously built facilities for retrofit options in order to address ecological needs</td></tr>
<tr><td>E. Protect, enhance and preserve natural flood plains</td><td>Encourage preservation of existing natural floodplains and support their ecological functions; enhance natural areas to restore hydrological and ecological function where feasible</td></tr>
<tr><td colspan="2">Goal: Flood Protection / Channel Maintenance
<i>Increase ecological health and appearance of our natural and modified channels</i></td></tr>
<tr><td>Objective Statement</td><td>Focus of the Objective</td></tr>
<tr><td>A. Balance the needs of humans and the environment</td><td>Design and maintain channel features, including road crossings, to provide critical community features while reducing impact to aquatic and riparian flora and fauna</td></tr>
<tr><td>B. Maintain natural stream functions</td><td>Identify and preserve functions such as wildlife and fish passage, shade, substrate, spawning/nesting, and connectivity</td></tr>
<tr><td>C. Manage sediment within stream channels</td><td>Prevent excess contribution of sediment through channel or upland erosion, and direct, control, and remove as necessary excess in-channel sediment; protect natural gravel beds from being clogged by fine sediment</td></tr>
<tr><td>D. Restore or redirect streamflows for in-stream beneficial uses</td><td>Identify in-stream beneficial uses and the required seasonal flows to maintain those; manage water resources to sustain those flows; modify channels to ensure physical passage during typical flows; evaluate benefit of in-stream and off-stream ponds; review Baylands area flow needs and relationship with upland flow regimes</td></tr>
</table>

8.2.3 Environment / Habitat

The District shares responsibility for protection of human environment and ecological habitat with other local, state, and federal agencies. A goal with seven objectives, as listed in Table 8-3, was developed to guide the development of projects.

TABLE 8-3: COYOTE WATERSHED STREAM STEWARDSHIP PLAN ENVIRONMENT / HABITAT GOAL AND OBJECTIVES

Goal: Environment / Habitat ***Protect, enhance and restore habitat for wildlife***	
Objective Statement	**Focus of the Objective**
A. Restore and increase riparian, aquatic and other wildlife habitats	Survey habitats and develop plan for protecting, acquiring, and enhancing, including revegetation, acquisition, and channel improvements
B. Preserve and enhance natural, self-sustaining habitats wherever possible	Inventory and protect existing natural, self-sustaining habitats; identify and restore habitats adversely affected by non-native, invasive species; identify and protect special habitats that support endangered or sensitive species
C. Balance the preservation of native warmwater fisheries with the restoration of endangered/coldwater fisheries	Identify zones of management to provide needed protection of endangered coldwater fisheries and zones to support other native fisheries
D. Provide barrier-free physical passage for migratory aquatic and wildlife species	Identify and remove passage barriers for fish; identify and improve/acquire passage zones for land fauna
E. Preserve and increase buffer in upland, undeveloped areas	Identify, acquire, or preserve sufficient stream buffer in upland areas to preserve existing habitat and prevent increased runoff and erosion; acquire additional open space areas to preserve habitat
F. Protect, restore & increase buffer for lowland areas	Identify remaining lowland area stream buffers for preservation and candidate buffer areas that can be restored to more natural function
G. Protect existing and create new wetlands for multiple uses	Acquire existing wetland habitat and identify potential opportunities for wetland creation/restoration

8.2.4 Community Participation / Recreation

The District has programs for educating the public and encouraging public involvement. It supports other local, state, and federal agencies and organizations in contributing to recreational opportunities in the watershed. A goal with seven objectives, as listed in Table 8-4, was developed to guide the development of projects.

TABLE 8-4: STREAM STEWARDSHIP PLAN COMMUNITY PARTICIPATION / RECREATION GOAL AND OBJECTIVES

Goal: Community Participation / Recreation ***Encourage community participation in Coyote Watershed Stewardship activities***	
Objective Statement	**Focus of the Objective**
A. Ensure public safety along creeks	Identify appropriate public access points to streams and provide safe access; identify inappropriate or unsafe areas and limit access
B. Meet community aesthetic standards	Identify and accommodate public concerns for stream and riparian aesthetics within the range of ecologically appropriate improvements
C. Increase and/or improve appropriate recreational features along creeks	Provide appropriate recreational features that encourage public appreciation of the natural environment without constraining or adversely affecting ecological function
D. Foster among students a knowledge, respect and sense of stewardship for living streams	Support a program of environmental education and stream stewardship for grade school, high school, community college and other students as a means for expanding the community's commitment to long-term support of the District's stream stewardship programs
E. Provide educational opportunities and interpretive resources for the general public.	Provide streamside interpretive materials and general educational materials for groups and the public at large to inform residents of short-term and long-term program components and ways they can support ecological improvements.
F. Provide outreach to community organizations and general public	Contact organizations and the public to encourage participation and involvement in planning, prioritizing, or implementing District projects (such as through the City of San Jose's Strong Neighborhoods Initiative and other on-going non-District projects where such objectives are in concert with parallel or similar efforts)
G. Increase partnership and support of groups (environmental, community, etc.) to preserve and restore aquatic, riparian and other habitat	Provide technical information and/or financial assistance to groups who can leverage the District's activities with their volunteer actions

8.2.5 Program Implementation

Program implementation addresses the procedures and mechanics of implementing the recommended stream stewardship program. The District has programs for interfacing with other local, state, and federal agencies and organizations to design, review/approve, and finance capital projects. A goal with seven objectives, as listed in Table 8-5, was developed to guide the implementation of projects.

TABLE 8-5: STREAM STEWARDSHIP PLAN PROGRAM IMPLEMENTATION GOAL AND OBJECTIVES

Goal: Program Implementation ***Implement the Plan in an efficient and effective manner***	
Objective Statement	**Focus of the Objective**
A. Apply an integrated, adaptive management approach	Build into the program implementation the iterative approach to ecological improvements: identify recommendations changes, implement changes, monitor benefit, and adjust program if needed to reach intended target; resulting in updated Plan
B. Foster coordination of District activities/projects with other agencies	Maximize the benefit of resources contributed by all area agencies through efficient, effective coordination and collaboration
C. Support authority of appropriate groups to implement plans and actions	Provide governance, ordinances, interagency agreements, or memoranda of understanding as necessary to share the implementation responsibility and authority with appropriate groups; provide District staff the authority to implement working agreements and other means to commit District participation in joint projects
D. Use existing institutional capacity to improve planning, regulatory and development programs	Avoid creation of new programs or staff groups; utilize existing resources and staff to efficiently and effectively implement programs; provide funding partnerships to share staff from other agencies or acquire grant funds, and improve/streamline permitting process
E. Implement multi-objective planning process at District	Develop and apply multi-objective planning process to identify, prioritize, fund, and design/construct projects
F. Optimize use of public and private resources to accomplish Plan goals	Create a funding plan that maximizes use of existing funding mechanisms, including Proposition 13 or other grant funds to fund projects
G. Simplify compliance with regulatory requirements without compromising environmental protection	Identify and remove barriers to efficient permitting of priority projects and develop and implement a streamline permitting process in order to complete recommended projects in a timely, cost-effective manner

Chapter 9 Candidate Programs and Projects

This Chapter summarizes potential programs and projects that would help to achieve the goals and objectives identified in Chapter 8. The programs and projects presented in this chapter were already initiated in an earlier phase or were identified by District staff or the Coyote Watershed Work Group of the Watershed Management Initiative (WMI) after the development of goals and objectives in Chapter 8. Additional information about each of the identified programs and projects can be found in Appendix C, Candidate Project Detail Sheets. Prioritization of these programs and projects will be conducted in Chapter 12 of this Coyote Watershed Stream Stewardship Plan.

For the purposes of this document, programs and projects will be defined as follows:

Programs are as ongoing efforts and activities such as facilities operation, support of joint jurisdictional task forces, land purchase, or programmatic data acquisition and planning.

Projects are specific activities with a beginning and end, such as reach-specific field assessment, data acquisition and analysis, pre-design, design and construction of modifications to stream channels, control structures, or other physical modifications

Note that the integration of new programs and projects into District operations will require further evaluation from staff, management, public and potentially the Board, depending on the program or project. The intent of this chapter is to identify known candidate programs and projects that will help to achieve the Coyote Watershed goals and objectives identified in Chapter 8. Final recommendations for implementation will be presented in Chapter 14.

9.1 Process for Identifying the Candidate Projects

District staff and the Coyote Watershed Work Group identified and prepared information about the programs and projects listed in this chapter. The programs and projects were developed through a series of “brainstorming” sessions composed of District technical staff, regulatory agencies, local agencies and local stakeholders. Each individual objective was examined to identify a list of program or project ideas that would help to achieve the planning objective. Additionally, input was individually solicited outside of the “brainstorming” sessions.

Following the identification of program and project ideas, further definition of the program or project was undertaken in order to clarify tasks, project descriptions and intent. This additional information is contained in Appendix C, Candidate Project Detail Sheets. The following information is summarized in that section.

Project Number – Number is based on goal, objective and assigned project number. Numbers were randomly assigned, and do not reflect any prioritization above and beyond their identification within individual objectives. For example, project WS-A-01 would be a project meeting the water supply goal, objective A.

Project Name – Name assigned to project or program.

Project Manager – District division or unit that would likely undertake project. No specific person or title was identified to fill this role, due to the potential flexibility of staffing decisions and workload.

Primary Goal – Goal, from Chapter 8, that the project or program helps to attain

Primary Objective – Objective, from Chapter 8, that the project or program helps to fulfill

Ends Policies – Ends Policy that the project or program helps to attain

District Role – Role of the District in the first phase of the project or program. The District Role can be one or more of the following: Leader, Partner, or Supporter. Note that the District role may change for future stages, but this will not be identified in Appendix C.

- Leader: Manager or takes responsibility for project or program. This term does not preclude the District from partnering with other agencies.

- Partner: District is active participant in the project or program. It insinuates that the District is not the lead agency.

- Supporter: District provides technical or monetary assistance only.

Potential Agency Participation – Other non-District agencies that may be involved in project or program development or implementation.

Location – Location of the proposed project or program, if known. Some of the projects or programs span the entire watershed or District service area, and those projects or programs are identified as such.

Description – Brief (<5 lines) description of the project or program. This is intended to provide the reader with an overview of the project or program, and is the same as the tables in the Chapter 9 project description.

Project Components – The project component descriptions will describe the tasks associated with the first phase of the project or program. If it adds to the clarity of the project component description, additional information about the next phases may be included. These components are not necessarily in sequential order of how they would be implementation in the project or program. They are a guide to the project or program, and are not necessarily comprehensive.

Budget/Schedule – Estimated timing, duration and cost (or range of costs) for various project (or program) stages. Each of the projects or programs is assumed to have a schedule that begins within a reasonable time frame, unless it is dependent on the completion of other projects or programs or if other parties have already developed a schedule. If the initial planning or study for the candidate project or program has yet to be completed, ranges of cost estimates for most projects were assumed. Providing exact cost estimates without conducting any preliminary engineering was not determined to be a suitable method of cost estimation at this time. The initial planning or study task would be assumed to refine these cost estimates to more accurate cost estimates. The definitions used for the budget/schedule are as follows:

- Study/Planning: Initial identification of specific tasks required for the project or program. This includes evaluating potential sites, identification of problems, preliminary engineering, cost estimates and other action to determine the feasibility of a project or program. There is a chance that some projects or programs will never progress past this stage. This does not refer to specific project or program end products or deliverables (such as a report or a management plan). This also takes into account obtaining environmental documentation or permits for the project or program, including any studies that may be required in order to obtain these permits.

- Design: This is not strictly defined in the project components or project descriptions, as these are candidate projects and programs. This would be further defined when determining the project or program work scope. Generally it refers to actual engineering design of the project, producing plans that are used for the construction of the project, or the creation of a plan or program.

- Construction: This is not strictly defined, as these are candidate projects and programs. This would be further defined when determining the project or program work scope. Generally it refers to construction of the project.

- Implementation: Start up of the project or program, including resolution of any issues regarding implementation.

Linkages – This identifies the linkages to current or candidate projects and programs. For example, flood protection projects potentially link to numerous environmental projects. One master list of projects was developed for these linked projects, which follows the definitions outlined here.

Implementation Issues – This lists potential hurdles to project or program completion or initiation. This does not include items that need to be done prior to starting the project or program. These issues are for the project or program manager, whoever it may be, to consider during the development of the project or program that could either be a fatal flaw or critical path issue. No cost hurdles were identified for any project or program.

Notes – Any additional information about the proposed project or program not contained within one of the other rows.

In processing the projects listed in the database, the screening of projects listed in Chapter 7 (Current Projects) is necessary to avoid redundancies and repetitiveness. While this Chapter may highlight the important elements of the current or planned projects described in Chapter 7, it intends to focus on descriptions of projects/activities not covered there. However, the next phases of projects identified elsewhere are to be prioritized in tandem with the newly identified candidate projects.

While at this time, not all project ideas were fully scoped out or developed, the definitions of the candidate programs and projects identify, at least, the preliminary work components developed in the work process. Developing details for these programs and projects will be an ongoing effort. The programs and projects described can provide the foundation for prioritization and implementation. Further study, interaction with local agencies, and further stakeholder outreach may be necessary before implementation. Subsequent activities may include financial planning (including acquisition of funds), pre-design (including detailed site investigations), permitting, environmental review, property or easement acquisition, design, and construction.

It is important to note that many programs or projects can help to achieve multiple goals and objectives. The projects and programs are categorized by their “key” or “main” objective for the purposes of presenting the information. This identification of the “key” objective is based on the intent of the project or program.

9.2 Organization of this Chapter

This chapter provides a description of candidate projects and program, and is organized into six (6) major sections, which are as follows:

Section 9.1 – Process for identifying the Candidate Projects: This identifies the origins of the projects, intent of the project descriptions, and project classification strategies.

Section 9.2 – Organization of this Chapter: Overview of how Chapter 9 is organized.

Section 9.3 – Linkages to Ongoing or Planned Projects and Programs: Describes the linkage with other planning efforts and how the projects may be linked into ongoing projects.

Section 9.4 – Candidate Projects: Provides a brief description of each project or program identified for the Coyote Watershed goals. The projects and programs are grouped by the following goals:

9.4.1 Water Supply
9.4.2 Flood Protection and Channel Maintenance – Protection of Wildlife, Property and Humans
9.4.3 Flood Protection and Channel Maintenance – Increase Ecological Health
9.4.4 Environmental/Habitat
9.4.5 Recreation and Community Participation
9.4.6 Stream Stewardship Plan Implementation

Additional information about each of the Candidate projects is also contained in Appendix C.

Section 9.5 – Next Steps: Identifies the next steps for project prioritization, development and implementation

Section 9.6 – References: Provides the references used to help identify the projects and programs in this chapter

9.3 Linkages to Ongoing or Planned Projects and Programs

A number of initiatives aimed at advancing the understanding and the resolution of watershed related issues affecting the Santa Clara Basin, including the Coyote Watershed, are underway. These include the WMI, Fisheries and Aquatic Habitat Collaboration Effort (FAHCE) and the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP), which were identified and summarized in Chapters 4, 6 and 7. These efforts help provide mechanisms for information exchange and discussion forums for important issues. It is expected that these efforts will in turn generate their own solution packages that would be linked to the Plan, or vice versa. The continued interaction with these programs through the Coyote Watershed Work Group will be important to achieve the goals identified for the Coyote Watershed.

Projects that are currently underway but not completed were also included in the candidate project listing. It is assumed that the prioritization of the next steps in each of these ongoing projects would be compared with the new projects identified in this Chapter.

The implementation of candidate projects may be integrated as additional tasks within existing projects that are ongoing at the District. This evaluation will be completed in Chapter 14, Implementation Strategies. Following prioritization, a characterization of the status and tasks associated with current and future projects will be performed to determine how to integrate these projects into existing District efforts.

9.4 Candidate Projects

This section summarizes candidate programs and projects that were identified and developed by District Staff, Coyote Watershed Workgroup and others who participated in this review and visioning effort. This chapter presents six tables, sorted by their goal, containing a brief description of each project, project identification number and project name. Following each of the tables are the objectives for that goal, whose sections contain a brief descriptions of how these projects integrate into fulfilling that objective, and a brief paragraph summarizing the intent, focus, linkages or other applicable information associated with the project or program. Detailed information about each project is contained in Appendix C, Candidate Project Detail Sheets.

9.4.1 Water Supply

Programs and projects are generally aimed at protecting and increasing the water quality of the water available and maintaining supplies for current and future needs. Table 9-1 presents candidate projects to meet water supply/water quality objectives. Brief descriptions of key projects follow.

TABLE 9-1: WATER SUPPLY CANDIDATE PROJECTS

Project No	Project Name	Description
WS_A. Provide a reliable supply of healthy, clean drinking water		
WS-A-01	Management of the Effects of Individual and Cumulative Groundwater Transfers	The candidate project would reduce the effects of individual and cumulative water transfers on the groundwater basin. This includes groundwater monitoring, and determining management strategies based on monitoring results.
WS-A-02	Water Banking/Water Transfer Program	This program would increase the available imported water supplies during critical dry years, and potentially increase the amount of available imported water during typical years. Investigate utilizing potable water banking programs and long-term water transfers to provide an even greater level of imported water supply reliability.
WS-A-03	Retailers Customer Supply Survey	Perform a detailed survey of the billing and record-keeping systems of the water retailers to determine which retailers supply information on customer categories (i.e. Single-Family Residential, Multi-Family Residential, Commercial, Institutional, etc.). This project would assist in the development of future water use projections, and the identification of water use demands of zoning decisions.

Project No	Project Name	Description
WS-A-04	Recycled Water Use Feasibility Study	The recycled water feasibility study will identify potential sources and uses of recycled water within Santa Clara County. Expansion of existing and the creation of new uses will be studied. These uses include irrigation, industrial, agricultural, environmental and indirect potable reuse.
WS-A-05	Coyote Canal Pipeline Feasibility Study	Determine the feasibility of installing a 7.8 mile pipeline/unlined channel to bypass flows around the Coyote Valley to control groundwater elevations on Coyote Creek between Anderson Dam and Metcalf Rd.
WS-A-06	Regional Water Reliability Study	Analyze the reliability of District water deliveries in the event of a natural disaster or power outage, and determine how District could be more prepared. This project would identify potential strategies to increase the reliability of existing water supplies, including identifying reliability improvements in and around known and suspected fault lines.
WS_B. Reduce/manage total potable water demand		
WS-B-01	Water Conservation Baseline Study	Conduct a Water Conservation Baseline Study to determine how and why a conservation program works and which customer groups are conserving. The study would also develop a water conservation feasibility study to evaluate cost-effective solutions to reducing water demand. These solutions could include the expansion of existing conservation programs, creation of new programs, or the modification of existing water consumptive practices to reduce water demand.
WS-B-02	Water Conservation Appliance Use Study	Determine the feasibility of expanding the ultra low flush toilet (ULFT) rebate program to other water conserving appliances, such as front-loading washers or water conserving dishwashers. Continue and promote existing ULFT program.
WS-B-03	IWRP Implementation	Provide resources to implement the District's IWRP.
WS_C. Protect surface water/groundwater supplies to meet or exceed all applicable water quality regulatory standards in a cost-effective manner.		
WS-C-01	Water Quality Management Plan	Implement management plan to ensure water quality objectives are attained.
WS-C-02	Instream Groundwater Recharge	Provide instream groundwater recharge. This project would expand the ability of the District to recharge the groundwater basin in the east zone. If it is determined that additional recharge is required, project would identify ways and locations most suitable for percolation and/or injection.
WS_D. Provide adequate water quality and quantity to sustain native fisheries and other aquatic life, and the human community		

Project No	Project Name	Description
WS-D-01	Conjunctive Use Plan	Identify and implement conjunctive use opportunities that improve maximize water availability for human and aquatic resources.
WS-D-02	Identification of Beneficial Uses in Coyote Watershed/Basin Plan Update	Coordinate with RWQCB, WMI and SCVURPPP on update of basin plan table for beneficial use designations for Coyote Watershed. These areas include: • Major creeks within the Santa Clara Basin. • Groundwater supplies in Santa Clara and Coyote Valley • Major contiguous wetlands, where practical • Other wetland sites, as needed
WS_E. Reduce direct and non-point sources of pollutants in streams		
WS-E-01	Grazing Solutions (GRASS) Support	Support Santa Clara Advanced Planning office distribution and demonstration projects for GRASS (GRAzing SolutionS) along with their advisory team.
WS-E-02	Stormwater Discharge Reduction Program	Develop feasibility study to identify solutions to reduce rate and quantity of stormwater pollutant discharges.
WS_F. Restore impaired water bodies (TMDLs)		
WS-F-01	TMDL/Diazinon Management Program	Work with regulators to coordinate TMDL implementation schedule. Develop management plan and monitoring program to identify sources of Diazinon in the Coyote Watershed.

9.4.1.1 Provide a reliable supply of healthy, clean drinking water

Examples of improving water supply reliability range from water banking and transfer programs to increasing the amount of recycled water used for non-potable applications. Methods to increase water supplies include increasing the amount of imported water, increased local and out-of-basin storage, use of recycled water and water conservation. Six projects have been identified that meet this purpose without degrading the quality of existing supplies.

Management of the Effects of Individual and Cumulative Groundwater Transfers: This project would look at evaluating the effects of groundwater transfers on the groundwater basin. Historically the Santa Clara Valley groundwater basin has had problems with overdrafting, or using too much groundwater. Areas of the Coyote Valley have historically high water tables. This project would identify ways for the District to optimize the operation of the groundwater basin for water supply purposes, and maximize local water storage.

Water Banking/Water Transfer Program: This project would establish a program that would increase the reliability of imported water supplies. The District may not be able to import all the water it requires during dry weather years to meet current water demands. The IWRP identified that increases in the supply and reliability of imported water supplies are required to meet current and future water demands. The District would enter into negotiations with other Central Valley Project/State Water Project (CVP/SWP) contractors to secure these additional water supplies.

Retailer Customer Supply Survey: In order to determine future water demands, additional information is necessary to determine the current and project expected water usage of various types of land uses within the District service area. Water retailers often have information such as the number and types of customers they have, such as residential uses, commercial users, and industrial users, and how much water each customer type uses. This information can be used to project future water demands based on how many more residential, commercial, or industrial areas are to be built, determine the water supply impact of land use decisions, or determine the required additional supplies changes in land use would require.

Recycled Water Use Feasibility Study: This project looks at ways of using recycled water for non-potable uses, rather than using potable, or drinking water, supplies for such purposes. Agricultural irrigation, industrial uses such as cooling tower water, and environmental enhancement and streamflow augmentation are all possible uses for recycled water.

Coyote Canal Pipeline Feasibility Study: This canal is an unlined channel extending 7.8 miles from near the base of Anderson Dam to Coyote Creek near Metcalf Road. Constructed in 1936, it has been used to bypass flows around the Coyote Valley to control groundwater elevations in Coyote Valley. Some of the benefits of installing this channel in pipe would be:

- Minimize maintenance costs;
- Ability to connect pipeline directly to the Anderson Force Main;
- Eliminate need for Coyote Canal Diversion Dam;
- Eliminate need for Coyote Canal Fish Screen;
- Provide a clean, cold source of water to various locations along Coyote Creek for anadromous fish migration;
- Provide a clean, cold source of water to any proposed wetland sites;
- Provide flexibility for water operations during periods of drought;
- Provide flexibility for maintaining groundwater elevations in the Coyote Valley; and
- Possibly provide for park trail over pipeline easement.

This project would be coordinated with efforts currently underway by FAHCE, and maintenance of appropriate Coyote Valley groundwater levels would be coordinated with the Conjunctive Use Plan and Impacts of Cumulative and Individual Groundwater Transfers candidate projects.

Regional Water Reliability Study: This project would assess the vulnerability of the District's water transmission system to natural disasters, such as earthquakes or flooding. Natural disasters are inevitable, regardless of location. The District, through this project, would determine how and where water delivery systems may be damaged during disasters, and identify mitigation measures or additional reliability that can be added in order to prepare for them. These measures or increases in reliability can include building redundant delivery systems, reinforcing support structures, new storage facilities, new pipelines or locating emergency storage sites.

9.4.1.2 Reduce / manage potable water demand

As the availability of new water supplies dwindles, the cost and difficulty of obtaining additional water supplies increases significantly. One way to reduce and manage the potable water demand is to increase conservation efforts. Three projects have been identified to reduce or manage the potable water demand.

Water Conservation Baseline Study: This project would increase the District's understanding of why conservation programs work, and identify the effectiveness of existing water conservation programs currently in place, such as the Ultra Low Flush Toilet Program. This information can then be used to increase the effectiveness of future water conservation efforts. This study would likely focus on attitudes, cost and effectiveness of water conservation projects, types of appliances customers are willing to use, and the willingness of customers to use or follow a water conservation program. This study will build on the current water conservation efforts in the Coyote Watershed by expanding and focusing efforts to achieve more water conservation.

Water Conservation Appliance Use Study: This project determines if water customers would be willing to use a rebate program for water conservation appliances similar to the one currently being used for ultra low flush toilets. Based on the results of this study, rebates or incentive programs could be developed to promote the use of water conserving appliances. This study would be implemented in conjunction with other water conservation projects.

IWRP Implementation: The IWRP recommended a series of water supply management steps, and included the implementation of the following measures. This corresponded to the intermediate action step, which correlated to an annual demand of 450,000 acre-feet per year (AFY).

- 46,000 AFY conservation;
- 14,400 AFY non-potable recycling;
- Establishing M & I shortage policy for CVP supplies;
- Protecting reliability of SWP, CWP and Hetch-Hetchy supplies;
- Protecting existing resources and monitoring potential impacts;
- Implement programs to seek improvements in source water quality, protect quality of existing resources and improve treatment capability;
- Improving data collection and evaluation;

- Expanding and upgrading Rinconada Water Treatment Plant from 80 to 100 MGD to meet anticipated capacity requirements;
- Adding recharge or treatment capacity for South County;
- Up to 100,000 AFY water banking;
- Up to 25,000 AFY long-term recycled water usage;
- Up to 11,000 AFY in reduced demand associated with demand management; and
- Long-term water transfers of up to 25,000 AFY.

The IWRP is currently being revised and updated, and it is expected that project schedules and implementation strategies may be modified. This document will be updated as the implementation strategies change.

9.4.1.3 Protect surface water / groundwater supplies to meet or exceed all applicable water quality regulatory standards in a cost-effective manner

There is a variety of water quality issues associated with Coyote Watershed groundwater supplies. Groundwater sources need to be protected from contamination, and Coyote Creek has been listed as an impaired water body for Diazinon. Coyote Creek is considered a low priority for TMDL scheduling, but it does not limit the potential for other pollutants to be listed, or a change in future prioritization. The District must also meet NPDES requirements as part of its cooperation in SCVURPPP and Municipal Separate Stormwater System (MS4) regulations. Two projects have been identified that help meet this objective.

Water Quality Management Plan: The District has water quality objectives based on the needs of groundwater recharge, fish and aquatic habitat requirements, bay discharge limits, and TMDL requirements. Most of these District requirements are based on local, state, and federal water quality regulatory requirements. Measuring water quality in a meaningful manner in the Coyote Watershed will require an ongoing, comprehensive water sampling and monitoring program. Coordinating existing and potential sampling efforts and ensuring that all permit requirements are met with similar sampling efforts can reduce redundant samples and increase efficiencies, while increasing the usability of the information collected.

Instream Groundwater Recharge: The purpose of this project is to expand the groundwater recharge capabilities of the District in the east zone of the groundwater basin. The District needs to determine whether or not it would be beneficial to expand the instream groundwater recharge system. Though the percolation rate in the Coyote Watershed is generally lower than in other District watersheds, local recharge is important to minimize subsidence. Expansion of the District groundwater recharge capacities would also allow the District to better control basin groundwater levels of the basin. Recreational opportunities may also be enhanced through creation of the additional recharge facilities, depending on location and intended purpose.

9.4.1.4 Provide adequate water quality and quantity to sustain native fisheries and other aquatic life, and the human community

The FAHCE process is determining the requirements associated with the preservation of cold-water habitat. However, there are other native aquatic habitats that require adequate water quality and quantity. The availability of water supplies for recreational purposes is also necessary, especially in the areas that the District can regulate streamflows.

Conjunctive Use Plan: This project would identify ways to maximize water uses for all Coyote Watershed beneficial uses. There are many goals and priorities in the watershed that require water supplies of suitable quality and quantity, such as aquatic habitat, groundwater recharge, drinking water, and agricultural irrigation . In order to ensure there is enough water for all water consumers and the environment, it is vital to maximize the available water and use it as efficiently as possible. This project would focus on determining what opportunities exist to improve the conjunctive use efficiency of the watershed, and the most effective ways implement them.

Identification of Beneficial Uses in Coyote Watershed/Basin Plan Update: The Regional Water Quality Control Board (RWQCB) periodically must develop, adopt, and implement a water quality control plan, or basin plan, that regulates the water quality of the San Francisco Bay. NPDES permits are part of this regulation includes controlling pollutant discharges into the bay. Since the Coyote Watershed drains into the bay, it is affected by this regulation. This project would facilitate District participation and coordination with the RWQCB, WMI, and the SCVURPPP to update this basin plan as required, and to identify those beneficial uses of the basin that may be impacted by water quality issues.

9.4.1.5 Reduce direct and non-point sources of pollutants in streams

The treatment of stormwater discharge could help improve the quality of water and pollutants entering streams. Areas could be identified that could be used to pilot test construction of cost-effective stormwater retrofit solutions to attenuate flood flows. These solutions could include constructed wetlands, working with large nonpoint source polluters (like golf courses) to control pollutants prior to runoff, applying new technologies for source control, and applying BMPs where appropriate. Two projects were identified to meet this objective. The SCVURPPP, an ongoing effort by 15 co-permittees to regulate runoff pollution, also helps to meet this objective.

GRAzing SolutionS (GRASS) Support: Overgrazing by cattle or sheep reduces the amount of vegetation available to hold soil and absorb rainfall. The results of this can be high amounts of soil-laden rainfall runoff entering streams, which degrades water quality. This project serves as a preventative measure to help ranchers recognize this problem through supporting the GRASS project.

Stormwater Discharge Reduction Program: This project will identify ways the District can reduce the amount of stormwater entering streams and creeks. Areas that could benefit from such stormwater controls include parking lots and other paved areas, golf courses, and agricultural and pasture lands. By minimizing the quantity of stormwater runoff before it enters the streams, water quality and flooding problems are reduced or eliminated. This project should be implemented in concert with the Stormwater Retrofit Pilot Study.

9.4.1.6 Restore Impaired Water Bodies

EPA's 1998 Section 303(d) list of impaired water bodies and pollutants needing TMDLs listed Coyote Creek as an impaired body for Diazinon (see Section 2.2.2.2). This TMDL will establish the maximum daily pollutant loads Coyote Creek can sustain. Currently, the TMDL implementation is prioritized as "Low." Other TMDLs for this or other Coyote Watershed creeks may be forthcoming in the future, and strategies for removal of impaired status are explored by the following project.

TMDL/Diazinon Management Program: The TMDL/Diazinon Management Program project focuses on working with federal and state regulators, such as RWQCB, to control pollutant loading in streams. Coyote Creek has been listed as an impaired water body as a result of the pesticide Diazinon, and therefore measures need to implemented to control the sources of Diazinon in the watershed. Other TMDLs may also be developed for this or other creeks in the future. This study sets up a monitoring and management program for controlling Diazinon contamination.

9.5 Flood Protection / Channel Maintenance: To Protect Humans, Wildlife and Property From Damaging Floods

Though the District has not completed construction of all the facilities necessary to protect Santa Clara residents from the 1% flood, their efforts have helped protect many existing businesses and residents for up to 40 years. However, the cost and time required to construct these facilities has led to the introduction of non-traditional ideas to promote flood protection and attenuation, some of which are introduced here.

In light of the adopted Ends Policy and the goals and objectives identified in this Plan, flood control projects identified in this section were planned to incorporate multiple objectives. Thus, these types of objectives would be looked into in conjunction with the flood protection projects:

- Riparian habitat enhancements;
- Aquatic habitat improvements;
- Removing barriers to passage for aquatic or terrestrial species;
- Public safety improvements;
- Construction of additional wetlands, wildlife refuges, or other features (beyond the minimum required for project mitigation); and
- Trails, recreational features, and are incorporated.

By incorporating these multiple benefits directly into the design of the flood control project, the need for future mitigation will be reduced, and a balance between human needs and those of native wildlife is less difficult to achieve. The ideas generated by the stakeholder discussion forums are summarized in Table 9-2.

TABLE 9-2: FLOOD PROTECTION / CHANNEL MAINTENANCE CANDIDATE PROJECTS (TO PROTECT…FROM DAMAGING FLOODS)

Project No	Project Name	Description
FP1_A. Minimize expansion of the 1% floodplain		
FP1-A-01	Stormwater Retrofit Pilot Study	Identify cost-effective areas to pilot-test construction of stormwater retrofit opportunities to attenuate peak flows. These technologies could be incorporated into new development construction, or added onto existing buildings that are empty or underutilized if deemed appropriate.
FP1-A-02	Land-Use Decision Seminars	Conduct seminars to educate planners on how land-use decisions can affect flooding and environmental quality. An example seminar could be the Land Use and Water Summit held on March 29, 2001.
FP1_B. Reduced potential for flood damages		
FP1-B-01	Hydrologic Data Collection Network	Install additional streamflow monitoring stations to add to the Hydrologic Data Collection Network to, in part, enhance emergency response and flood preparedness services.
FP1-B-02	Storm Water Detention and Infiltration Ponds	Determine the feasibility of creating and constructing new stormwater detention and infiltration ponds to minimize peak streamflows. These ponds could have an alternate benefit of capturing sediment.
FP1-B-03	Property Buy-Out Program	Investigate the feasibility of a long-term District property buy-out program. The property buy-out program allows the District to purchase property located in the 1% floodplain (typically this property has previously flooded, though it is not required). The program goals also include providing the additional channel width to restore riparian and instream habitat while preserving peak flow capacity.
FP1-B-04	Lower Silver Creek FPP	Design and construct facilities to protect Lower Silver Creek from Coyote Creek to Lake Cunningham from 1% flood flows.
FP1-B-05	Lower Silver Creek/Thompson Creek FPP	Design and construct facilities to protect Lower Silver Creek/Thompson Creek Flood Protection Project between Lake Cunningham and Thompson Creek terminus from 1% flood flows.
FP1-B-06	Upper Penitencia Creek Flood Protection/Bypass Project	Design and construct facilities to protect Upper Penitencia Creek between Coyote Creek and Dorel Drive from 1% flood flows.
FP1-B-07	Berryessa/Calera Creek FPP	Design and construct facilities to protect Berryessa Creek between Lower Penitencia Creek and Calaveras Blvd. and on Calera Creek from 1% flood flows.
FP1-B-08	Coyote Creek FPP	Design and construct facilities to protect Coyote Creek between Montague Expressway and Anderson Dam from 1% flow flows.

Project No	Project Name	Description
FP1-B-09	East Penitencia Creek FPP	Design and construct facilities to protect East Penitencia Creek between Lower Penitencia Creek and the LOJ from 1% flood flows.
FP1-B-10	Fisher Creek FPP	Design and construct facilities to protect Fisher Creek between Coyote Creek and LOJ from 1% flood flows.
FP1-B-11	Fowler Creek FPP	Design and construct facilities to protect Fowler Creek between earth berm to LOJ from 1% flood flows.
FP1-B-12	Los Coches Creek FPP	Design and construct facilities to protect Los Coches Creek between Berryessa Creek and Temple Drive from 1% flood flows.
FP1-B-13	Miguelita Creek FPP	Design and construct facilities to protect Miguelita Creek between Lower Silver Creek and Toyon Road from 1% flood flows.
FP1-B-14	North Babb Creek FPP	Design and construct facilities to protect North Babb Creek between Lower Silver Creek and Mahoney from 1% flood flows.
FP1-B-15	South Babb Creek FPP	Design and construct facilities to protect South Babb Creek between Lower Silver Creek and u/s Clayton from 1% flood flows.
FP1-B-16	Quimby Creek FPP	Design and construct facilities to protect Quimby Creek u/s Anderson to the LOJ from 1% flood flows.
FP1-B-17	Sierra Creek FPP	Design and construct facilities to protect Sierra Creek between Berryessa Creek to the LOJ from 1% flood flows.
FP1-B-18	Upper Silver Creek FPP	Design and construct facilities to protect Upper Silver Creek between Highway 101 and Silver Creek Road from 1% flood flows.
FP1_C. Reduce flood insurance costs to homeowners and other property owners		
FP1-C-01	Flood Mapping Update and Insurance Liaison	Assist Federal Emergency Management Agency (FEMA) in their ongoing efforts to manage floodplains and identify flood hazards, through District liaison with the public, cities, and county relative to their participation in FEMA's National Flood Insurance Program and the Community Rating System Program. Program also includes updating and publishing District flooding and facilities maps and establishing data links (GIS and FTP).
FP1_E. Protect, enhance and preserve natural flood plains		
FP1-E-01	Open Space Acquisition	Identify critically significant lands to be preserved as open spaces and prioritize for purchase and/or easement.

9.5.1.1 Minimize Expansion of the 1% Floodplain

Numerous properties are currently located within the 1% floodplain, putting them at risk of damage should a 100-year flood occur. Ways to protect properties from the 1% flood are to construct flood protection facilities, or minimize the expansion of the 1% floodplain. Sample mechanisms to minimize floodplain expansion include attenuating peak flows, maintenance of existing facilities and on-site detention. These opportunities decrease the peak intensity of flow eventually reaching the streams, and could limit the impact of a development on conveyance facilities. Two projects were identified to meet this objective.

Stormwater Retrofit Pilot Study: This project serves to identify ways the District can reduce the amount of stormwater entering storm drains and creeks. Areas that could benefit from such stormwater controls are parking lots and other impervious areas, golf courses, and agricultural or pasture lands. Roofs can also be retrofitted with Ecoroof technologies. By eliminating the stormwater runoff before it enters the streams, water quality and flooding problems are reduced or eliminated. This project should work in coordination with the Stormwater Discharge Reduction Program.

Land-Use Decision Seminars: New developments or redevelopment of existing sites located within the natural floodplain are susceptible to flooding and flood damage. Preventing certain kinds of development in floodplains could reduce the amount of flood damage or flood protection required. One way of controlling inappropriate development in these areas is to educate city and county planners about the impacts of constructing in floodplain areas, so they can make more informed land-use decisions. Land-use decisions can also affect environmental quality of nearby streams, such as developing shopping centers with large parking lots. These water quality issues can also be made part of these land-use decision seminars.

9.5.1.2 Reduced potential for flood damages

Projects identified to minimize flood damages were to increase streamflow monitoring to improve emergency response to flooding events, construct detention or infiltration ponds, buying properties currently located in the 1% floodplain, and constructing flood protection projects. These project definitions are summarized below.

Hydrologic Data Collection Network: The District has an ongoing flood protection program that aim to increase the flood conveyance capacity of channels. It determines these projects by utilizing a hydrologic/hydraulic model of the system and forecasting flows for various flood conditions. The model predicts 100-year flows and identifies properties that would be flooded by this event. This analysis helps identify the geographical limits of the 1% floodplain. The model is then used to test various channel improvements to identify the best solution, generally expanding the channel capacity by widening or deepening the channel. One candidate project is to increase the number of streamflow monitoring stations in the District's Hydrologic Data

Collection Network. Additional monitors would allow the improved calibration of the District's models and therefore increased accuracy in identifying future problems and testing potential solutions. These installations could include both additional reservoir and streamflow flow gauges.

Storm Water Detention and Infiltration Ponds: Localized attenuation and recharge ponds could be created to reduce peak runoff rates, and to a lesser degree the total runoff, associated with storm water runoff. Storm water detention ponds, including extended wet detention, reduce peak flow rates and also remove storm water pollutants from the water through settling. Detention ponds can be designed to serve small areas, including individual buildings, or can be designed as regional ponds, for instance, serving 300-acre developments. Their cost-economy increases as the area served increases.

The impetus to construct small-scale detention and infiltration units in the Coyote Watershed may comprise a part of an overall assessment of the benefit of establishing new development guidelines throughout the District. Additional impetus could be achieved by establishing incentives for voluntary construction of such storm water controls. Several small-scale sediment capture ponds have been recommended as shown on the District's maps of limits of 1% flooding (District, 1993).

Property Buy-Out Program: Areas with a high frequency of flooding but minimal land or monetary value impact the benefit/cost ratio associated with new flood control projects. The lack of cost effectiveness can lower the priority of the construction of flood control projects, and make it more cost effective to purchase land within the 1% floodplain as an alternate. These areas would be candidates for a property buy-out program, where the District would buy property that was susceptible to this flooding damage. The District, in turn, could use the property for open space, parks, recreation, detention ponds, or groundwater recharge, where flood damage would not be costly. This project would identify the locations where this program could be valuable.

Flood Protection Projects: Significant amounts of existing and proposed urban development in the Coyote Watershed are located within the 1% floodplain area. For these areas, flood damage can be significant during a flood event. Flood protection projects are the primary methods the District uses to prevent flood damages in these areas.

Hydrologic/hydraulic modeling of Coyote Watershed streams by the District has identified reaches where additional flood protection projects will be required. The modeling assumes that contributing areas in the watershed will develop as projected in the various city General Plans, and that peak runoff rates from developed parcels will match currently typical post-development rates. These projects include:

- Berryessa Creek;
- Calera Creek;

- Coyote Creek;
- East Penitencia Creek;
- Fisher Creek;
- Fowler Creek;
- Los Coches Creek;
- Lower Silver Creek;
- Thompson Creek;
- Miguelita Creek;
- North Babb Creek;
- Quimby Creek;
- Sierra Creek;
- South Babb Creek;
- Upper Penitencia Creek; and
- Upper Silver Creek.

Additional information about each of these projects is summarized in Appendix C. The District has preliminarily identified construction schedules for each of the projects, which extends through the year 2040.

9.5.1.3 Reduce flood insurance costs to homeowners and other property owners

Properties located within the 1% floodplain are required to carry flood insurance for their properties. This flood insurance can cost up to $1,000/yr, but can be reduced or eliminated through the construction of flood protection projects or participation in the Community Rating System (CRS). Candidate flood protection projects are summarized in Section 9.4.2.2. The CRS program is summarized below.

Flood Mapping Update and Insurance Liaison: The District can assist the public in reducing the cost of purchasing flood insurance by participating in programs that can reduce flood insurance costs to property owners. Through the CRS, a voluntary program under the National Flood Insurance Program, communities are rewarded with lower insurance premiums when floodplain mitigation activities are implemented. Credits are awarded for:

- Open space;
- Natural and beneficial uses of floodplains;
- Low density zoning (within or adjacent to the floodplain);
- Higher regulatory standards for permitted construction; and
- Comprehensive floodplain management planning.

The District has been a key promoter of the CRS in Santa Clara County, and credits have been awarded for its activities. Though the District currently has limited options for impacting land use decisions, it can support local jurisdictions by developing and implementing development standards, acquiring open space and protecting the natural and beneficial uses of floodplains. Comprehensive floodplain management activities contribute towards earning CRS credits.

9.5.1.4 Maintain existing flood protection facilities in an environmentally sensitive manner

While there are no current candidate projects identified that primarily meet this objective, new BMPs for maintenance could come out of a number of current efforts, including the District's Multi-Year Steam Maintenance Program (SMP). This program is designed to provide for the long-term effort of flood management without detrimental, long-term effects to the stream ecosystems. Some of these candidate O & M projects may also be summarized in Chapter 11.

9.5.1.5 Protect, enhance and preserve natural flood plains

Where natural flood plains still exist, their preservation can vastly contribute to the control of flooding, reduction of sediment loadings, maintenance of natural habitat and the use of natural methods to increase flow conveyance capacity. The District can play a major role in identifying these natural floodways, and coordinate with land use agencies, open space agencies, and other private and public partners to preserve these as open (undeveloped) spaces.

Open Space Acquisition: This project would identify areas that the District, in conjunction with others, could buy for preservation as a preserve or open space. These areas could provide flood and water quality protection by reducing rainfall runoff into streams, save areas for natural habitat or critical habitat areas for endangered species, and provide increased recreational opportunities in the Santa Clara Valley.

9.5.2 Flood Protection/Channel Maintenance: Increase Ecological Health

This section identifies candidate projects that not only provide flood protection but also can be utilized for stream ecosystem enhancement or restoration. These projects tend to focus on balancing the need of humans and the environment. For instance, maintaining natural stream functions could entail replacing problem culverts or realigning channels.

Table 9-3 shows of list of current candidate projects identified that meet this goal. These projects include both mitigation and restoration projects. Discussion of the types of projects that could fall under each category follows the table.

TABLE 9-3: FLOOD PROTECTION/CHANNEL MAINTENANCE CANDIDATE PROJECTS (INCREASE ECOLOGICAL HEALTH…)

Project No	Project Name	Description
FP2_A. Balance the needs of humans and the environment		
FP2-A-01	Multi-Objective Design Study	Determine areas where instream habitat diversity, riparian habitat, and adequate hydraulic capacity could be achieve. Determine structural and morphological changes needed to achieve these objectives.
FP2_B. Maintain natural stream functions		
FP2-B-01	Coyote Creek Mitigation	This project is to satisfy the permit condition of the 1984 Coyote Creek flood control project from the San Francisco Bay to Montague Expressway. This project includes management and monitoring of mitigation measures for vegetation, groundwater, and surface water in Reaches 1B, 2 and 3 of Coyote Creek.
FP2-B-02	Stream Channel Feature Restoration	This project would identify, prioritize, and construct restoration features at appropriate locations within the Coyote Watershed for stream restoration. The location and type of channel features that are to be replaced have not been identified, but there are a number of types of channel feature restoration projects that can be considered for implementation, such as removing problem culverts, daylighting streams, construct low flow channels, construct pool-riffle habitats, restore instream habitat complexity, etc.
FP2_C: Manage sediment within stream channels		
FP2-C-01	Coyote Creek Sediment Control	This project will identify major sources of sediment, create new development control measures and propose solutions for existing locations where sediment transport is an issue.
FP2_D. Restore or redirect streamflows for in-stream beneficial uses		

Project No	Project Name	Description
FP2-D-01	Saltwater/Freshwater Stream Connection Program	Identify potential freshwater streams to connect within Baylands area during high-flow years to promote species diversity and genetic exchange.
FP2_E. Manage the production and removal of trash		
FP2-E-01	Trash Collection in Stream Channels	Increase removal of trash from channel areas in coordination with local jurisdictions, District staff and the general public. This maintenance can include participation in creek cleanup days, ongoing trash removal from bins, and cleanup of illegally dumped items.

9.5.2.1 Balance the needs of humans and the environment

Balancing the needs of humans and the environment is a goal that, as part of the Ends Policy, is an overall goal for the District. This concept has been incorporated into candidate projects where applicable. Usually, this goal is part of multi-objective projects, such as flood control or environmental restoration projects. Environmental needs such as revegetation or fish passage improvement can be part of the flood protection project, allowing for project cost savings and increased public support for these projects. One project was identified to specifically meet this objective.

Multi-objective Design Study: This project will identify existing areas within the watershed's right-of-way where multiple objectives of instream habitat diversity, riparian habitat, and adequate hydraulic capacity could be achieved. Once these areas are identified, the necessary structural and morphological changes needed to achieve these objectives will be determined. For areas where sufficient space does not exist, changes to channel shape and necessary property acquisition needed to achieve these objectives will be determined and evaluated.

9.5.2.2 Maintain natural stream functions

Natural stream functions need to be maintained in such a way that long-term stream maintenance activities provides flood protection without negatively affecting the health of the stream ecosystem. The District is working to secure long-term permits for the SMP, which would assist in implementing projects meeting this objective. Two specific projects were identified to meet this objective.

Coyote Creek Mitigation: This project provides management and monitoring of mitigation measures that are required for Coyote Creek. Construction projects such as flood protection facilities sometimes require mitigation, since they remove riparian and aquatic habitat in order to safety convey flood flows. Usually these mitigation measures can be revegetation and restoration of riparian and aquatic habitat in other areas of the creek. This project includes implementation, monitoring, reporting, and management of mitigation measures for the creek, and would likely be coordinated with efforts currently underway by the SCVURPPP, local creek organizations and others.

Stream Channel Feature Restoration: Channel feature enhancement is likely to be required on various reaches of the Coyote Watershed. This project would identify the type of enhancement desired on Coyote Watershed stream reaches. There are a variety of ways flood control channels can be enhanced to provide habitat while maintaining their flow conveyance capabilities. Wood and other debris needs to be managed in such a way that stream flow is not impeded, but some debris is left for fisheries habitat. Problem culverts can be replaced or removed. Vortex rock weirs or channel realignment may be needed in certain areas to encourage sediment transport. Certain channels could be made to be low flow channels or pool-riffle habitat areas could be constructed, as well as vegetation removal to daylight some stream areas to provide for improved fisheries habitat. Projects identified by this study could be implemented in conjunction with either SMP projects or flood control projects.

9.5.2.3 Manage sediment within stream channels

Sediment accumulation in the creek beds is an important issue that affects the hydraulic capacity of the creeks. The District expends resources to remove the accumulated sediment, and the maintenance activity impacts aquatic and riparian habitat. Controlling the introduction of sediment to the channels would lessen the frequency and impact of the maintenance activity. One project was identified to help meet this objective.

Coyote Creek Sediment Control: The purpose of this project is to identify the major sources of sediment loading, and identify cost-effective means of controlling these loads. In the Silver-Thompson watershed, a District sponsored sediment study is underway to identify problem areas, causes of sediment loss/loading, and recommended corrective measures. This study could serve as a basis for similar sediment control projects in entire Coyote Watershed.

9.5.2.4 Restore or redirect streamflows for in-stream beneficial uses

Additional flood protection can be gained from redirecting flows through either off-stream detention ponds or connecting freshwater streams within the Baylands area to handle high-flow years. Both of these options could produce additional wildlife habitat areas, while also providing additional benefits identified in Section 9.4.2.2. One project has been identified to meet this objective.

Saltwater/Freshwater Stream Connection Program: Historical flood protection projects conveyed of flood flows as quickly as possible, often at the expense of smaller creeks connected to the main stream system. Closing off these smaller creeks prevented them from contributing to flood protection or providing aquatic habitat. By reconnecting these smaller streams, the area available for flood flow attenuation is potentially increased, which reduces the amount of flood protection required on main stream channels. Plus, reconnecting these streams could potentially allow for species diversity and increased genetic exchange among populations, increasing the value of local aquatic habitats. This program would determine where stream connection could achieve both flood protection and habitat restoration.

9.5.2.5 Manage the production and removal of trash

The removal of trash along creeks and streams is needed in order to allow streams to convey flood flows, maintain water quality and stream ecosystem health, and to provide an aesthetically pleasing and safe recreational area for the general public. District staff and public participation can both be utilized to perform creek inspection and cleanup. District staff can include these activities as part of stream maintenance activities, whereas public participation can be organized through stream stewardship programs. One project has been identified to specifically meet this objective.

Trash Collection in Stream Channels: This project is aimed at increasing the amount of trash removed from Coyote Watershed's stream channels and recreational areas. Since the streams collect runoff from various sources, they also collect any trash the runoff is carrying with it. Coupled with litter generation associated with foot traffic or urbanization, this causes a large amount of trash to accumulate in the stream channels. Periodic trash removal is required in order to maintain channel conveyance efficiency. This project establishes such a program. District staff can work with the general public by organizing creek clean up days and providing ongoing trash removal from existing or future trash bins. Also, the stream channels would be routinely checked for and cleared of illegally dumped materials.

9.5.3 Environment / Habitat

The District's Ends Policies regarding the environment and habitat state that "Watersheds, streams and the natural resources therein should be protected, enhanced or restored where appropriate." The section is divided into projects that restore and increase habitat, preserve and enhance habitat, preserve warmwater fisheries, allow for free migration of aquatic and wildlife species, preserve upland and lowland areas for habitat buffer, and preserve and create wetlands. However, determining the areas where habitat restoration and enhancement will be most effective will require an evaluation of current watershed resources. Projects such as development of a countywide natural resource database could help provide a depository for this information, and allow for coordination between environmental projects and other projects, such as flood control, water supply, or recreation.

The following sections identify candidate projects or activities for enhancement of the environment and aquatic and riparian habitat. Table 9-4 lists the candidate programs and projects by objective, followed by brief descriptions of key programs and projects.

TABLE 9-4: ENVIRONMENT / HABITAT CANDIDATE PROJECTS (PROTECT, ENHANCE AND RESTORE HABITAT FOR WILDLIFE)

Project No	Project Name	Description
EH_A. Restore and increase riparian, aquatic and other wildlife habitats		
EH-A-01	Stream and Wetland Revegetation Project	Revegetate riparian, wetland, and sensitive habitat areas, clean up trash, and create wetland areas at appropriate sites on Coyote Creek from Anderson Dam to the Bay. Sites preliminarily identified include percolation pond land, Norwood Creek, Lake Cunningham, Flint Debris basin and elsewhere.
EH-A-02	Habitat Protection, Enhancement and Restoration Plan	Develop an implementation plan that identifies and enables construction for restoration and enhancement of 100 acres of tidal and/or riparian habitat (an equivalent of 6.6 acres of tidal or 7.2 acres of riparian habitat annually) that can be restored or constructed.
EH-A-03	Palassou Ridge Restoration	Cooperative Palassou Ridge project with SCCOSA to develop resource management plans and experimentally restore wetlands and species at risk on-site.

Project No	Project Name	Description
EH-A-04	Invasive, Non-Native and Destructive Species Control Program	Develop and implement a program that identifies, locates, controls and/or eradicates invasive, non-native, and destructive species in aquatic, riparian, and upland habitats.
EH_B. Preserve and enhance natural, self-sustaining habitats wherever possible		
EH-B-01	Coyote Watershed Creek Restoration and Inventory Study	Prepare an evaluation of restoration potential for all Coyote Watershed creeks (upland, aquatic and riparian resources), updating existing riparian and aquatic conditions and identify priority preservation areas.
EH-B-02	SRA Cover Habitat Conservation and Augmentation Program	Conduct SRA cover habitat conservation and augmentation program on Lower Berryessa Creek and Coyote Creek (entire length) and Upper Penitencia Creek above Alum Rock Park. This will help identify suitable mitigation measures for the planned future flood control projects along these creeks.
EH-B-03	Habitat Conservation Plan	Develop and implement a Habitat Conservation Plan to address District polices regarding Threatened and Endangered species.
EH_C. Balance the preservation of native warmwater fisheries with the restoration of endangered/coldwater fisheries		
EH-C-01	Fish and Frog Screens	Install fish and frog screens where needed and replace where appropriate. This project will identify what streams are suitable for which species, and identify locations where screens may be required.
EH-C-02	Native Warmwater Fisheries Program	Support native fish assemblage in Coyote Watershed and evaluate viability of population enhancement (such as effects of exotic game fish on native fish populations, etc.)
EH-C-03	Salmonid Recovery Program	Identify short-term/long-term salmonid recovery program, such as habitat restoration, water temperature maintenance, and removing migration obstructions in creek.
EH_D. Provide barrier-free physical passage for migratory aquatic and wildlife species		
EH-D-01	Fish Passage Improvements	Identify reaches were potential fish habitat exists, and develop and implement an environmental strategy for fish passage improvements with prioritized projects.
EH_F. Protect, restore & increase buffer for lowland areas		
EH-F-01	Biological Corridor/Habitat Area Land Acquisition	Acquire lands for biological corridors/riparian habitat areas. Identify undeveloped parcels within or adjacent to riparian corridor area for potential purchase or easement acquisition.

Project No	Project Name	Description
EH-F-02	Salt Pond Reoperation	Develop a "Pond A4 Tidal Wetlands 'Mitigation Program'" for restoring the 321-acre site to a self-sustaining, full functioning tidal wetland ecosystem. These tasks will require restoration of salt ponds to some of the following uses: • Waterfowl habitat • Shorebird habitat • Wetlands
EH_G. Protect existing and create new wetlands for multiple uses		
EH-G-01	Wetland Mitigation Project	Evaluate purchasing wetlands, in conjunction with others, to provide as mitigation measures for District projects.

9.5.3.1 Restore and increase riparian, aquatic and other wildlife habitats

The restoration of habitat in District maintained areas is identified as an Ends Policy and goal of a wide cross-section of District projects. However, the type and location of restoration has historically been conducted on an ad-hoc basis. The Board has desired information regarding the types of restoration projects are available for restoration, as opposed to accepting or rejecting the project presented to them. The following four projects will assist in these efforts, while also meeting this objective.

Stream and Wetland Revegetation Project: This project will identify candidate revegetation areas within the Coyote Watershed, including areas that have lost riparian vegetation due to historical channel maintenance, development, flood damage or construction. Loss of riparian vegetation removes healthy, sustainable habitat for aquatic and riparian wildlife. Riparian vegetation can provide critical habitat for terrestrial species, and shade for creeks that provide suitable coldwater aquatic habitat. Wetland areas may also require revegetation in order to provide for habitat and cover for wetland species. Areas identified by this project could be implemented in conjunction with other candidate projects, such as the flood protection, stream maintenance of projects in this section.

Habitat Protection, Enhancement, and Restoration Plan: This project defines an implementation plan to construct or restore approximately 100 acres of tidal and/or riparian habitat in the Coyote Watershed. Once critical restoration areas are located and evaluated for their benefit potential, work on these sites can begin. It is anticipated that restoration work will occur at a rate of 6 to 7 acres annually until the entire 100 acres is restored. Completed restoration work will require monitoring to ensure that project goals and objectives are being maintained. Restored areas will provide additional habitat for aquatic, riparian, and wetland species in the watershed.

Palassou Ridge Restoration: Palassou Ridge has been identified as critical sensitive habitat of California native plant and animal species by the Nature Conservancy. This ridge is part of the Santa Clara County Open Space Authority's (SCCOSA)'s Lakeview Meadows Ranch acquisition, and contains some of the best sycamore alluvial woodlands along Coyote Creek. The District can work with the SCCOSA to restore this area and maintain it as critical habitat by preparing resource management plans. It is a natural floodplain, and benefits the District by reducing flood flows, maintaining high water quality levels in Coyote Creek, and providing habitat for aquatic and riparian species.

Invasive, Non-Native and Destructive Species Control Program: Invasive, non-native and destructive (undesired) species of plants and animals upset the natural balance in native plant and animal communities. Undesired species compete with native species for food, reduce the populations of native species, or provide unsuitable habitat for native species. Some undesired species, such as the Giant Reed (*Arrundo donax*), could destroy aquatic habitat by absorbing large quantities of water, leaving little water left for other species. This project's objective is to locate where and what undesired species there are in the Coyote Watershed, and then determine how those species can be effectively eradicated or controlled. One control mechanism for invasive species could be coordinated species removal days (similar to the Adopt-a-Creek clean up days). Control of undesired species should be coordinated with the Non-Native and Exotic Species Education Program, in an effort to encourage the general public to support the District's control efforts.

9.5.3.2 Preserve and enhance natural, self-sustaining habitats wherever possible

The focus of these projects is to identify areas for restoration, preservation, and enhancement and habitat conservation plans to manage sensitive and critical habitat. Three projects have been identified to meet this objective.

Coyote Watershed Creek Restoration and Inventory Study: This project prepares an inventory of the status of restoration projects and potential sites within the watershed. Aerial surveys would be conducted of the watershed to determine where habitat could be preserved or restored, or might benefit from a biological corridor. Areas of seasonal wetlands or vernal pools can be identified and restored to provide critical habitat for riparian species. A GIS interactive webpage would allow the District staff and general public to access information on the location and status of various restoration projects throughout the watershed.

SRA Cover Habitat Conservation and Augmentation Program: Planned flood control projects on Upper Penitencia and Coyote Creek may impact riparian vegetation, or reduce the available shaded riverine aquatic (SRA) habitat. This habitat is vital for maintaining cool stream temperatures necessary for coldwater fisheries. The FAHCE process has identified Upper Penitencia and Coyote Creeks as steelhead habitat. This project will determine what habitat mitigation measures are appropriate for these flood control projects. Mitigations include revegetating stream channels with different levels of vegetation (trees, shrubs and bushes, and grasses) or enhancing areas of the creek that were not disturbed by construction. A similar effort, coordinated through the WMI, is currently underway for the Upper Guadalupe Flood Control Project.

Habitat Conservation Plan: Incidental take permits issued by the California Department of Fish and Game (CDFG), United States Fish and Wildlife Service (USFWS), and National Marine Fisheries Service (NMFS) require that a habitat conservation plan be prepared in order to limit the amount of endangered or threatened species and their habitat that are injured or destroyed by the permitted activity. This project oversees the preparation of this plan for all activities in the Coyote Watershed that would threaten endangered species, such as the red-legged frog or steelhead. Construction activities will often require an endangered species permit, triggering preparation of the Habitat Conservation Plan.

9.5.3.3 Balance the preservation of native warmwater fisheries with the restoration of endangered/coldwater fisheries

Warmwater fisheries have distinctly different requirements from coldwater fisheries. Warmwater native fish generally require warm water of approximately 60°F, shallow pools of water less than three feet deep, and slower moving water. Coldwater fish generally require water temperatures of approximately 50°F, deep pools, and fast flowing in-stream riffles. Providing both kinds of habitats within the same stream system requires careful planning and identification of candidate areas. Coordination of these planning efforts with channel construction, revegetation, or land acquisition projects can lead to more effective recovery programs for each of these fisheries. Three projects were identified to help meet this objective.

Fish and Frog Screens: The Fish and Frog Screens project would determine what stream reaches should be closed off to fish and frog species in order to prevent them from being injured or killed. While it is important to allow aquatic species to migrate and move throughout the watershed, some areas cannot support these species. This project would minimize fish and red-legged frog deaths in these areas, and increase the chances of species survival. These are important components as part of an overall recovery and conservation program.

Native Warmwater Fisheries Program: There are several different species of warmwater fish native to Coyote Creek. These fish tend to live in warmer, shallower, slower moving areas of the stream. These fish have been able to co-exist with coldwater fish because local streams used to have a mixture of different habitat types. One stream could have deep, cold pools of water, which flowed into shallow, slow moving areas of water. This allowed for both types of fish to be present within a single stream system. This project would identify where warmwater fish habitat would occur in relation to the Salmonid Recovery Program, and how to develop it. Other issues for the program could include the removal of exotic species that compete with native fish.

Salmonid Recovery Program: Recent regulatory action has led to the listing of steelhead as a threatened species. Coyote and Upper Penitencia Creek are known steelhead habitat. Coldwater fisheries need to be improved, enhanced, and protected as part of this regulatory action. The Salmonid Recovery Program will work with FAHCE to assist in providing suitable habitat for these fisheries. Enhancements and restoration efforts should include the removal of migratory barriers, potential reservoir operational changes, increasing shade and SRA cover of streams to lower stream temperatures, provide increased pool-riffle habitat in stream channels, and to control water quality problems in the streams, such as sediment transportation.

9.5.3.4 Provide barrier-free physical passage for migratory aquatic and wildlife species

Migratory aquatic and wildlife species need to be able to reach watershed habitat areas. For instance, physical barriers such as perched streambeds, crushed or raised culverts, and other constraints make it impossible during certain flow conditions for fish to move freely into the stream zones they prefer, or to move upstream to spawn. While the District has already started work on this issue as part of the FAHCE project, additional reaches where potential fish habitat exists could be identified for fish passage improvements. One project has been identified to meet this objective.

Fish Passage Improvements: This project would determine where fish passage improvements should be made, based on known areas of fish losses. Perched streambeds, crushed or raised culverts, weirs, and poor water quality are some of the main reasons fish cannot freely migrate through the watershed. Streams would be surveyed to determine what barriers there are to fish passage, and biologists enlisted to determine appropriate passage improvements, or what can be done to remove or mitigate impediments. This project would be coordinated with the outcomes of the FAHCE process, the Fish and Frog Screens projects and the Salmonid Recovery Program.

9.5.3.5 Preserve and increase buffer in upland, undeveloped areas

If development is not allowed on land draining into reservoirs, water quality can be improved and habitat can be provided. Some riparian species require access to upland habitat as part of their life cycle. These areas would also be preserved for the benefits of recreational activities by humans. Projects located in other sections that meet this objective include the Open Space Acquisition Program and the Open Spaces, Trails, and Parks Master Planning Program. There were no specific projects identified that has this as the primary objective.

9.5.3.6 Protect, restore and increase buffer for lowland areas

While preservation or restoration of riparian habitat may be a stated goal, the implementation of that goal within the County may be limited by past practices, current development or adjacent land uses. Riparian buffer restoration of areas where these practices could be reasonably implemented might extend or connect currently healthy areas, or be linked to other ongoing activities or improvements. There are two projects that have been identified as candidate projects to increase buffer in lowland areas.

Biological Corridor/Habitat Area Land Acquisition: Habitat segmentation can occur in areas where construction or other activities has removed riparian vegetation. This segmentation can act as a barrier to species movement, creating isolated populations. Isolated populations of species result in poor genetic health, and it eventually destroys the population. Biological corridors are “strips” or areas of habitat that connect larger habitat areas. This allows species to move between different habitats and ensure a healthy population. This project would identify and acquire undeveloped parcels within or adjacent to riparian corridor areas. It would assist in identifying critical lands for potential open space acquisition, riparian restoration or other purposes. An activity that could assist in internally coordinating District activities is the development of a resource map that identifies preservation areas, e.g. 100-foot riparian buffer zone, areas that provide ecological benefit and areas where variances could be granted.

Salt Pond Reoperation: This project develops a plan to reoperate Pond A4 to provide fresh/brackish/saltwater marsh habitat. Much of the saltwater wetlands around San Francisco Bay have been diked or filled. Many areas in the south bay became salt ponds, or areas where seawater was left to evaporate to leave the salt behind. The District recently purchased this pond for use as mitigation for District activities.

9.5.3.7 Protect existing and create new wetlands for multiple uses

Wetlands have a significant role in vitality of local ecosystems. They are able to retain floodwaters by absorbing a large amount of water and then slowly releasing it over time. In addition to provide some water treatment, they are often referred to as the “kidneys” of water bodies, particularly for stormwater or nonpoint source pollution, and provide a high amount of biological diversity. Wetlands can also provide habitat for various juvenile aquatic species. The creation of wetlands can provide many if not all of these functions, meeting the goals and objectives of flood control, environmental and habitat restoration and enhancement, and water quality. One project has specifically been identified to meet this objective.

Wetland Mitigation Project: This project would evaluate purchasing, enhancing or restoring wetlands as mitigation for other District projects. District projects that disturb wetland areas typically require mitigation associated with NEPA or CEQA requirements. Areas that are appropriate for wetlands will be identified and restored, providing critical wetland habitat within the watershed. Usually, historic wetland locations result in more successful wetland restoration areas, since they are easier to establish. Also, these areas would provide the greatest flood protection benefits, since areas with historic wetlands can be more prone to flooding. This study phase of this project is currently underway.

9.5.4 Community Participation and Recreation

Community outreach is a key component of any successful public works effort. The public represents both the beneficiary and financier. Balancing meeting the public's goals and desires with the associated economic and non-economic impacts is necessary, and can't be accomplished without significant public input. The District formally interacts with the public through the Board of Directors. Staff, with Board approval, has the ability to request feedback and input from the community, and are integral to the public outreach process.

The District emphasizes the joint use of District facilities in Ends Policy 2.2. However, any potential recreation projects, such as trail construction, open space acquisition or park construction must be designed and implemented either by or with significant input from the local jurisdiction or land use agency. Recreation typically cannot come at the expense of intrusion into high-value habitat areas or limitation of the ability to construct flood protection projects. District recreation facilities are to be designed be a complementary part of a wide variety of District projects and facilities.

The ideas identified that meet the Community Participation and Recreation goal are summarized in Table 9-5.

TABLE 9-5: COMMUNITY PARTICIPATION / RECREATION: ENCOURAGE COMMUNITY PARTICIPATION IN COYOTE WATERSHED STEWARDSHIP ACTIVITIES

Project No	Project Name	Description
CPR_A. Ensure public safety along creeks		
CPR-A-01	Homeless Encampment Minimization Program	In order to increase creek access public safety, work with local agencies to minimize homeless encampments in riparian areas.
CPR-A-02	Public Safety Improvements Within District Rights-of-Way	Improve safety at primary access areas by providing lighting, call boxes, and limiting access to potentially unsafe areas.
CPR_B: Meet community aesthetic standards		
CPR-B-01	Public Access Sanitation Improvements	Identify creek public access areas that have or could have litter accumulation and install more trash containers.
CPR_C. Increase and/or improve appropriate recreational features along creeks		

Project No	Project Name	Description
CPR-C-01	New Recreational Trails Construction	Construct trails at identified locations, linking into Bay Trail, existing trails and provide interconnections with City of San Jose, City of Milpitas and County Trails.
CPR-C-02	Open Spaces, Trails, and Parks Master Planning	Develop an implementation plan for community partnerships that identify and provide access to 70 miles of open space and/or trails (an equivalent of 4.7 miles of open space and/or trails annually). This project include identification of potential open space and trail opportunities, developing partnerships, and completing a plan for developing the 70 miles over the next 15 years.
CPR-C-03	Removal of Intrusive Recreational Features	Identify and relocate intrusive trails, roadways, and equestrian activities outside habitat areas. Replace intrusive trail crossings with bridges.
CPR-C-04	Upper Penitencia Ponds Recreation Area	Provide picnic tables and benches at Upper Penitencia percolation ponds.
CPR_D. Foster among students a knowledge, respect and sense of stewardship for living streams		
CPR-D-01	K-12 Watershed Education Programs	Develop programs for K-12 students working with local schools. Include programs such as NOAA's GLOBE program or USFWS's teacher's packet on Endangered Species, using creek as an "outdoor classroom".
CPR_E. Provide educational opportunities and interpretive resources for the general public.		
CPR-E-01	Community Watershed Education Program	Develop and implement a comprehensive educational program for the community regarding the Coyote Watershed.
CPR_F. Provide outreach to community organizations and general public		
CPR-F-01	Non-Native and Exotic Species Education	Provide information/educate local nurseries, landscaping companies, and residents regarding non-native or exotic species and their effect on the watershed.
CPR_G. Increase partnership and support of groups (environmental, community, etc.) to preserve and restore aquatic, riparian and other habitat		
CPR-G-01	Community Watershed Stewardship Program	Foster and encourage public support and sense of ownership for Coyote Watershed by providing stewardship activities and educational programs, such as creek clean up events and Adopt-A-Creek.

9.5.4.1 Ensure Public Safety Along Creeks

While urban creeks are natural attractive features, not all creek corridors are safe for general public access. The District does not have it's own police force, and relies on the local jurisdiction for that role. However, they regularly evaluate facilities and creek structures to identify and restrict access to unsafe areas. There have been reports during the 2000 and 2001 calendar years of arson fires on Coyote Creek, and assaults on Guadalupe River. Two projects were identified to meet this objective.

Homeless Encampment Minimization Program: This program would coordinate District efforts to minimize and reduce the amount of homeless encampments within creek corridors. The presence of homeless encampments can detract from the recreational and scenic value of the creek corridors, and can lead to increased trash accumulation and potentially safety concerns. In cooperation with local and regional groups and jurisdictions, the District would develop a plan to reduce or eliminate encampments, and potentially provide alternate options for the homeless to seek shelter.

Public Safety Improvements with District Rights-of-Way: During 2000 and 2001, reports of arson fires on Coyote Creek, and assaults on Guadalupe River have been published in local news telecasts and in the newspaper. This limits the appeal of the general public to visit District facilities, and potentially increases the liability of the District. This project would identify opportunities for safety to be increased, such as installing phone booths, additional lighting, limiting access to certain areas, or increasing patrols without causing intrusive impacts to local habitats. The goal of this program would be to reduce illegal activities within creek corridors, while increasing the comfort of local residents to utilize District facilities for recreational purposes.

9.5.4.2 Meet Community Aesthetic Standards

Recently, the Coyote Watershed Program adopted aesthetic standards for its projects, encouraging specific types of trails, vegetation and a "look" for District projects and facilities. However, an ongoing concern of stakeholders surveyed during the development of the Plan is the high incidence of trash along creek corridors. This can cause unsanitary conditions, and may lead to a degradation of habitat and the recreational value of the facilities. One project was identified to meet this objective.

Public Access Sanitation Improvements: This project would install more trash containers at public access points along creeks. This would require regular pickup and disposal of trash from trashcans located at various locations to ensure that the trash is not simply relocated from the recreation area to an area around a trashcan. Additional efforts to walk trails and collect trash not deposited into trash bins could also be explored. Portable toilets or washing facilities may also be desired. All facilities added or in place will require a minimum level of maintenance to prevent them from become unsightly. This effort might be coordinated with local jurisdictions, and programs to increase public safety.

9.5.4.3 Increase and/or Improve Appropriate Recreational Features Along Creeks

Stakeholders surveyed during the development of the Plan identified that the primary recreational features desired along creeks were trails that interconnect with existing and potential trails master planned by the County, regional agencies and the City of Milpitas. A number of these trails are identified and mapped in Chapter 4. Four separate projects were identified to meet this objective, one of which will prepare a District master plan of recreational facilities.

Removal of Intrusive Recreational Features: Locating trails within riparian corridors is not necessarily suited for all areas, due to the presence of existing or potential wildlife, riparian or wetland habitat. Trails can be intrusive, impacting local habitats and segregating areas from each other. The identification of areas where these types of issues need to be addressed was unknown at the present time. Potential measures to replace these intrusive features include bridges, routing trails around the habitat area, or not constructing the recreational feature.

Open Spaces, Trails and Parks Master Planning: Agencies such as the Santa Clara County Open Space Authority or Greenbelt Alliance have identified priority areas for open space preservation. How the District can interact and work with agencies was identified as a need. In order to ensure the future implementation of District projects, and preserve easements or existing access to facilities, it was suggested that identification and prioritization of efforts that impact the District could proceed, followed by the eventual purchase of deeds or easements for these parcels or areas. This project would also help to prioritize how funding allocated in Measure B to Open Space and Recreational efforts would be allocated. As a component of this planning effort, a manual would be prepared to identify principles for balancing recreation/public access with habitat needs, including pictoral/schematic representations of examples of bad designs and good designs.

Upper Penitencia Ponds Recreation Area: The utilization of the Penitencia percolation ponds for recreation was desired. The land surrounding the percolation pond is currently barren. This joint use can potentially be integrated with the City of San Jose's Upper Penitencia Creek Master Plan, which includes trails, parks and construction of a park. The area around the percolation ponds is currently a dirt lot, but there is a park across the street, and the area could be utilized by local residents as a picnic area, park or recreational trail as part of the overall creek improvements.

9.5.4.4 Foster among students a knowledge, respect and sense of stewardship for living streams

Fostering a sense of stewardship within the community can be a direct result from school centered outreach programs identifying practices that benefit the environment. The District purchased land on William Street in Willow Glen to construct the Coyote Creek Outdoor Classroom. The planned opening of this classroom will include a learning center, restoration of riparian habitat and tours for local children. One specific project will build upon this construction.

K-12 Watershed Education Programs: The focus of this project is for the District to work with others to develop an interactive, participatory program for K-12 students that educates them on the basics of aquatic and riparian habitat protection, stormwater pollution reduction, and water conservation. The local program can include materials developed nationally, such as the National Ocean and Atmospheric Administration (NOAA) GLOBE program, or the USFWS Endangered Species education program. The District is in the process of constructing the Coyote Creek Outdoor Classroom on Coyote Creek, which could be utilized as a location for these types of activities. Other programs could include lesson plans, handouts and videos for viewing in classrooms

9.5.4.5 Provide educational opportunities and interpretive resources for the general public

The District's ongoing public education program is an excellent base to continue efforts to improve watersheds in the county. The recent "Beyond 2000 Flood Protection and Stream Stewardship Program" is an example of the effort to educate the public on the District's mission, goals and implementation programs. It will be important to emphasize the District's past efforts in stream stewardship as well as identify approaches, activities, or services underway.

These outreach efforts help advance knowledge of District activities, and could have benefited passage of the Clean, Safe Creeks and Natural Flood Protection Program Measure. However, public education is neither temporary nor intermittent, but rather an ongoing collaborative effort to inform and advise the public about District projects and activities. One project specifically assists in this effort.

Community Watershed Education Program: This project would promote and update the general public how the District is benefiting the public with its activities and utilizing its resources. The District's website, http://www.heynoah.com, is a key and efficient media for the public to easily search for and access information. Included at this site is a feature to allow property owners to review what projects or activities are underway in their neighborhood. The interactive nature of this website encourages rapid dissemination of information to the public. The public also has a need for subject specific handouts that promote proper practices in and around District facilities. Gardening tips, flood prevention safeguards, channel maintenance and best management practices are a few of the topics of specific interest to subsets of the community. The District could post PDF copies of handouts on it's website, and provide outreach to local clubs active in these fields to increase knowledge of proper procedures. Existing facilities such as the Coyote Creek Outdoor Classroom project could also be used as information acquisition sites or an example of how to maintain facilities.

A commitment to long-term public education can also aid in the gradual change in public attitudes and behaviors necessary to match the District's Ends Policies. Coordinated implementation of information and outreach programs among cities, the county, and the District will result in clearer, consistent messages and efficient use of staff resources.

9.5.4.6 Provide outreach to community organizations and general public

The District has the opportunity to extend the benefit of its ongoing activities by providing technical assistance for improvements on privately owned areas. A technical advisory program staffed by District staff could assist property owners with organizing the removal of non-native species and the replanting of native species. Other than the educational opportunities identified that meet this goal, the following program was identified to meet this objective.

Non-Native and Exotic Species Education: This program aims to educate the general public, nurseries, local park departments, commercial gardeners, pet stores, and Adopt-A-Creek groups on the problems associated with non-native, exotic, or invasive plant and animal species. District staff would work with nurseries and landscape advisory committees to reduce the sales of invasive species, promote the sales of native plants, and educate consumers. Technical publications could be provided upon request, including listings of invasive plants and the preferred native plants with a list of nursery sources. This education program would be linked to the Invasive, Non-native, and Destructive Species Control Program.

9.5.4.7 Increase partnership and support of groups to preserve and restore aquatic, riparian and other habitat

In conjunction with the Environment/Habitat and Community Participation objectives, this objective has the purpose of enlisting the support of local organizations and the general public to promote habitat restoration. Encouraging restoration and increasing awareness has the other purpose of promoting District activities, including the recent Clean, Safe Creeks and Natural Flood Protection Program Measure passage. One of the projects that meets this objective is identified below.

Community Watershed Stewardship Program: As an extension of the Community Watershed Education Program, the Community Watershed Stewardship Program would encourage public support and a sense of ownership in stream stewardship activities. Efforts could include:

- Community creek cleanup events;
- Citizen water monitoring program;
- Augmented Adopt-A-Creek and Streamkeeper programs;
- Organization of plant removal/revegetation events; and
- Assistance with neighborhood communication efforts through the District's website.

9.5.5 Plan Implementation

A separate Plan Implementation goal was included in the goals and objectives for the Coyote Watershed to ensure that the ideas, concepts and projects generated through the development of the Plan are addressed. Not all of the projects are implementable solely through District actions. Almost all of the projects and programs will require significant cooperation and participation of local jurisdictions, regulatory agencies or stakeholders to ensure its successful completion. Some of the ideas will be further developed in Chapter 13, Funding.

The ideas generated by the stakeholder discussion forums are summarized in Table 9-6. Some of the projects are summarized or identified in each of the following sections.

TABLE 9-6: PROGRAM IMPLEMENTATION CANDIDATE PROJECTS

Project No	Project Name	Description
PI_A. Foster coordination of District activities/projects with other agencies		
PI-A-01	Watershed Revitalization Planning Program	Coordinate with local neighborhood revitalization planning processes (e.g. City of San Jose Strong Neighborhoods Initiative).
PI-A-02	Santa Clara Valley Urban Runoff Pollution Prevention Program	This project provides for District participation in the SCVURPPP to comply with the stormwater permit issued by the RWQCB. The District participates in collaborative efforts with 14 other co-permitees to protect aquatic habitat, recreational water uses, and local water supply by preventing pollution of storm water runoff into Santa Clara Valley creeks.

Project No	Project Name	Description
PI-A-03	Santa Clara Valley Basin Watershed Management Initiative	Continue to participate and contribute to the WMI. Provide funding and support as needed, through the development of the Watershed Action Plan.
PI_B. Apply an integrated, adaptive management approach		
PI-B-01	Stewardship Plans for West Valley, Guadalupe and Lower Peninsula Watersheds	Stewardship Plans will be developed for the West Valley, Guadalupe and Lower Peninsula Watersheds to document long-range projections, incorporate information from ongoing District efforts, and define future projects and strategies needed to achieve the District's Ends Policy.
PI-B-02	Stream Resources Inventory and Management Program	This project will provide for collection of baseline biological data and information to support District projects and develop a comprehensive understanding of the geological resources within Santa Clara County. Additionally, this project will develop a project plan to coordinate and consolidate District monitoring efforts and improve efficiency and effectiveness.
PI_E. Optimize use of public and private resources to accomplish Plan goals.		
PI-E-01	Funding Partnerships	Identify funding partnerships for identified prioritized projects.
PI-E-02	Project Funding	Identify potential fees, incentives, and/or cost sharing that could be utilized to fund projects.
PI-E-03	Restoration Funding	Analyze funding options to finance restoration activities.
PI-E-04	Grant Funding	Create funding partnerships with agencies and community organizations to obtain available grant funding
PI_F. Simplify compliance with regulatory requirements without compromising environmental protection		
PI-F-01	Permitting Process Improvement	Identify opportunities for the District to expedite the permitting process, including funding the staffing of positions at permitting agencies.
PI_G: Use existing institutional capacity to improve planning, regulatory, and development programs.		

Project No	Project Name	Description
PI-F-01	Watershed Data and Information Management	This project provides for the management of data and information necessary to provide effective and timely preparation and monitoring of District watershed planning and coordination activities. The project will identify existing data and information.

9.5.5.1 Foster Coordination of District Activities / Projects With Other Agencies

Many forums for coordination of watershed activities currently exist, including the WMI and SCVURPPP. These are excellent avenues for watershed-wide participation and exchange of information, and continued participation in these efforts could advance the District Ends Policies in the Coyote Watershed.

Previous sections summarized the involvement of the District in WMI activities. The ongoing support and participation of the District as a stakeholder and participant in these activities is included in this section as a candidate project.

Watershed Revitalization Program: Building upon the framework developed in WMI and SCVURPP, empowerment of a task force or workgroup to study issues such as developing approved plant lists for land use agencies and new development, or participation in local community revitalization planning efforts such as the City of San Jose's Strong Neighborhoods Initiative could prove to be beneficial. This Watershed Revitalization Program could provide technical and fiduciary support to organizations that are engaged in watershed activities. The issues discussed during these meetings may directly impact District activities, though the list could be expanded to include any number of concepts or ideas.

Santa Clara Valley Urban Runoff Pollution Prevention Program: The SCVURPPP is a mechanism for a cooperative effort to identify urban pollution sources and solutions. As discussed in Section 6.3, and in Chapter 7, the members of the program include co-permittees under the EPA Stormwater NPDES permitting system. As a co-permittee, the District has obligations to comply with the terms of the permit. Continuing support of the scientific investigation and compliance effort promises to add to the scientific understanding of the watershed as well as forging cooperatively implemented, workable, funded solutions to identified problems. This effort provides an established mechanism for interacting with the jurisdictions, agencies, and organizations that play a role in managing valley resources. It is expected that these efforts will in turn generate issues and candidate projects and activities.

9.5.5.2 Apply an Integrated, Adaptive Management Approach

The Plan is a novel concept to attempt to translate the Board's Ends Policies into projects, programs and activities for implementation in the Coyote Watershed. This type of approach requires stakeholder input and feedback, back-and-forth discussion between the agency utilizing the approach, staff performing the work and others participating in the process. Through these types of adaptive management efforts, resources are conserved due to the minimization of duplicative efforts, and knowledge is exchanged between participating groups. Three projects, two located in the Coyote Watershed, were identified to meet this objective.

Stewardship Plans for West Valley, Guadalupe, and Lower Peninsula Watersheds: Other watersheds within the District's jurisdiction would benefit from stewardship plans such as the Plan. This would allow for consistency in policies, programs, and projects in all watersheds throughout the District's jurisdiction. Stewardship plans for all the watersheds would also allow for projects and programs that apply District wide, or span more than a single watershed, such as Salmonid Fisheries Recovery, Habitat Restoration or Water Quality Management Plans to be wholly implemented.

Stream Resources Inventory and Management: Watershed monitoring is an important tool to evaluate the effectiveness of management techniques, and can serve as the basis for adaptive management. The idea behind adaptive management is that management techniques and tasks change, based on the conditions of the watershed. As watershed improvements are implemented, monitoring will be important in order to demonstrate the incremental environmental benefits and cost-effectiveness of watershed management efforts.

This project would create an inventory of watershed management activities, facilities, and projects that allow for a systematic approach to addressing watershed needs, both in the short and long-term. For example, the system can be used to predict and schedule routine maintenance, or estimate or record the observed condition of structural elements. This project collects baseline conditions data to serve as a benchmark for comparing with future data. This serves as a way of determining how effective watershed management activities are, and where improvements may be necessary.

9.5.5.3 Support Authority of Appropriate Groups to Implement Plans and Actions

No specific projects or programs were identified that have this objective as its primary focus. This is primarily a unique organizational issue related to the structure, style and hierarchy or the organization. The District is proposed as a supporter or partner of many of the projects identified in this chapter, and would have to support the authority of the lead agency or group to implement studies or projects as a component of that project.

9.5.5.4 Implement Multi-Objective Planning Process

Though no specific projects were identified for this objective, candidate projects were designed with multiple objectives in mind. For example, flood protection projects would include riparian restoration or recreational trails where applicable. This concept will be introduced in more detail during prioritization of the candidate projects, which is to be discussed in Chapter 12. Projects meeting multiple prioritization criteria will be ranked higher, and are more likely to be implemented sooner.

9.5.5.5 Optimize Use of Public and Private Resources to Accomplish Plan Goals

Projects listed under this objective primarily are associated with identifying sources of and acquiring funding for projects in the Coyote Watershed.

Funding Partnerships, Project Funding, Restoration Funding, Grant Funding: These similar projects would determine what available funds could be acquired by the District to implement candidate projects. Identification of specific sources and requirements should occur in Chapter 13. Partnerships could include working with the United States Army Corps of Engineers to obtain federal funding and support for flood control projects, or working with local watershed groups to obtain urban watershed funding from federal and state sources (e.g. United States Environmental Protection Agency (USEPA), Department of Water Resources, etc.) Project funding could include CalFed grants, or Prop 13 funding, depending on the project type. The USEPA, State Water Resources Control Board or the United States Bureau of Reclamation could provide funding for restoration activities, while grants can come from any number of sources.

9.5.5.6 Simplify Compliance with Regulatory Requirements

The acquisition of permits or approvals to proceed with projects is often a critical path item. Opportunities for the District to assist regulating agencies with staffing, facilitating their review of District documents or increasing their desire or knowledge of the proposed project could assist in bring the review process to a more timely conclusion. Achieving this objective can largely depend on existing relationships between regulatory staff and District staff, and issues largely outside of District control. However, a candidate project was identified to speed simplify regulatory compliance.

Permit Process Improvement: This project involves evaluating the current permit process, and determining where the District could speed the process. The permit process can be lengthy, due to the amount of paperwork, studies, and time regulatory personnel require to review and approve the permit. This project looks at ways the District can help to shorten the permit process. This can be achieved by working with regulatory agencies to develop "templates" for permits the District regularly requires, and by identifying areas where additional staffing at a regulatory agency would speed the permit process, and supporting the agency to increase staffing.

9.5.5.7 Use Existing Institutional Capacities to Improve Planning, Regulatory and Development Programs

The focus of this objective is largely to avoid creation of new programs or staff groups, and instead utilize existing resources and staff to efficiently and effectively implement programs. Examples of these issues could include staff rotations, partnerships for grant applications or coordinating permit acquisition (e.g. SCVURPPP). There are numerous potential projects, programs or activities scattered throughout the other goals and objectives sections that seek to take advantage of these ideals. This was considered to be a root objective of the projects classified within the other goal and objective sections. One project was specifically identified to meet this objective.

Watershed Data and Information Management: The data and information management project would allow for the accumulation, updating, storing, and sharing of watershed data, including information on ongoing or planned capital improvement projects, watershed monitoring or assessment activities. This includes watershed monitoring data, watershed restoration project schedules, and information on regulatory compliance. A Geographical Information System (GIS) can be used to integrate mapping functions into the database. The information would be publicly available in a standardized format for all to utilize. An example of this is the Central Coast Joint Data Committee, an information exchange program (http://www.centralcoastdata.org/) that has made GIS layers and aerial photography projects available to the general public. This type of information exchange helps to broaden the understanding of watershed issues.

9.6 Next Steps

Projects identified in this chapter will be reviewed and prioritized in Chapter 12 for implementation by the District and others. Following prioritization, funding sources will be identified and summarized in Chapter 13. Based on potentially available funding, recommendations for project implementation will be identified in Chapter 14, and an implementation plan will be detailed in Chapter 15.

9.7 References

1. Aguilera, Joe, Santa Clara Valley Water District, personal communication via email, November 2000.

2. Comments from Coyote Watershed Workgroup, miscellaneous.

3. Minutes from Coyote Watershed Workgroup Visioning meetings October 2000 – March 2001.

4. Santa Clara Valley Water District, District website, www.heynoah.com, 2001.

5. Santa Clara Valley Water District, Integrated Water Resources Plan – Implementation Plan, IWRP Project Team, June 1000.

6. Santa Clara Valley Water District, Maps of Flood Control Facilities and Limits of 1% Flooding, Flood Control Planning Division & the Engineering Services, Drafting Section, June 1993.

7. Santa Clara Valley Water District, Fiscal 2001-2003 Proposed Detail Budget, April 30, 2001.

8. Santa Clara Valley Water District, Coyote Watershed Program Monthly Progress Report, May 2001.

9. Valley Transportation Authority, Measure B Transportation Improvement Program – Executive Summary Quarterly Report, December 2000.

Chapter 10 Candidate Guidelines

This chapter identifies candidate guidelines meeting the Coyote Watershed Stream Stewardship Plan goals and objectives described in Chapter 8. The guidelines identified in this chapter are associated specifically with the Plan, and are identified to help guide the District toward achieving the Plan goals and objectives. The identified guidelines will be evaluated and prioritized for possible development in Chapter 14 (Implementation Strategies).

Note that the integration of new guidelines into District operations requires further evaluation from staff, the District's management, possibly the Board, and/or the public, depending on the issues addressed in the guideline. The intent of this chapter is to identify the possible guidelines requiring further evaluation. Final recommendations for implementation will be presented in Chapter 14.

10.1 Process for Identifying the Candidate Guidelines

The District Board of Directors recently updated the District's mission, established a series of governance policies, and modified administrative policies. This has created the need to revisit existing policies followed by staff to implement the Ends Policy. An initial evaluation of the District's policies, particularly the Ends Policy, and existing management/engineering policies (i.e., Engineering Policies and Procedures (EPP) Manual) was completed to identify the existing policies and procedures that address Plan goals and objectives. The existing policies and procedures are summarized in Chapter 5.

Based on the review of existing policies, additional candidate guidelines needed to achieve the Plan goals and objectives were identified. In other words, where no policy is in place to guide staff toward achieving the Plan goals and objectives, a candidate guideline was developed. The results of this analysis are summarized in this chapter.

Candidate guidelines can be thought of as a bridge between the Plan goals and objectives and the candidate projects, programs and activities outlined in Chapter 9 and Chapter 11. These guidelines were developed to support Plan goals and objectives, and guide District staff in the development and implementation of programs and projects.

10.2 Organization of this Chapter

This chapter provides a description of candidate guidelines. This chapter is organized into ten (10) sections as follows:

Section 10.1 – Process for Identifying the Candidate Guidelines: identifies the need and process for identifying candidate guidelines.

Section 10.2 – Organization of this Chapter: provides an index of the sections and describes the chapter organization.

Section 10.3 – Plan Goals and Objectives, Related Existing Policies and Candidate Guidelines: provides a table listing Plan goals and objectives and related existing policies and recommended candidate guidelines associated with Plan goal and objective.

Sections 10.4 through 10.9: describe recommended candidate guidelines. For each candidate guideline, a discussion is provided that includes background information on the need for the guideline, any existing related District policies, the objective of the candidate guideline, and potential guidelines components. The sections are organized by the following resource areas:

10.4 **–** Water Supply
10.5 **–** Flood Protection/Channel Maintenance
10.6 **–** Environmental/Habitat
10.7 **–** Community Participation/Recreation
10.8 **–** Program Implementation
10.9 **–** New Development

Section 10.10 – Summary: provides a summary table listing the candidate guidelines identified in the chapter, and next steps.

Section 10.11 – References: provides references cited in the chapter.

10.3 Plan Goals and Objectives, Related Existing Policies and Candidate Guidelines

Table 10-1 lists the Plan goals and objectives, existing policies and candidate guidelines that meet, either in full or partially, each Plan goal and objective. Existing policies listed in the table are discussed in Chapter 5. A description of the candidate guidelines follows in Sections 10.4 – 10.9.

TABLE 10-1: PLAN GOALS AND OBJECTIVES AND RELATED EXISTING AND CANDIDATE GUIDELINES

Goal/Objective	Existing Policies/ Procedures	Candidate Guidelines
Water Supply Goal: To provide an adequate supply of sufficient quality water for all human and wildlife purposes		
A. Provide a reliable supply of healthy, clean drinking water	Partially met by EPP #2-120	WS-5
B. Reduce/manage total potable water demand	None identified	WS-1, WS-2, ND-3
C. Protect surface water/groundwater supplies to meet or exceed all applicable water quality regulatory standards in a cost-effective manner	Partially met by Res. 98-85, Res. 83-43	WS-5, ND-1, ND-2, WS-3
D. Provide adequate water quality and quantity to sustain native fisheries and other aquatic life, and human community	Partially met by EPP #2-510 SMP RPP #6	WS-4, WS-5
E. Reduce direct and non-point sources of pollutants in streams	Partially met by EPPs #2-510, #1-803, SMP RPPs #7, 11, 12	WS-5, ND-1, ND-2
F. Restore impaired water bodies (TMDLs)	None identified	WS-3
Flood Protection/Channel Maintenance Goal: Protect humans, wildlife, and property from damaging floods		
A. Minimize expansion of the 1% floodplain	Partially met by EPPs #3-210, #3-214, #3-225	FP-1, ND-1, ND-2
B. Reduce potential for flood damages	Partially met by EPPs #3-210, #3-214, #3-215, #3-217, #3-220	FP-1, FP-2, ND-1, ND-2
C. Reduce flood insurance costs to homeowners and other property owners	Partially met by EPPs #3-217, #3-220	FP-1
D. Maintain existing flood protection facilities in an environmentally sensitive manner	Partially met by Res. 79-77, EPPs #3-240, #3-250	FP-2, FP-1
E. Protect, enhance and preserve natural flood plains	None identified.	FP-2, FP-1

Goal/Objective	Existing Policies/ Procedures	Candidate Guidelines
Flood Protection/Channel Maintenance Goal: Increase Ecological Health and Appearance of Our Natural and Modified Channels		
A. Balance the needs of humans and the environment	Partially met by SMP RPPs #5, 6, 9, 10 Partially met by Res. 98-85	FP-1
B. Maintain natural stream functions	Partially met by various SMP RPPs	FP-1
C. Manage sediment within stream channels	Partially met by SMP RPP 8	FP-1, ND-1, ND-2
D. Restore or redirect streamflows for in-stream beneficial uses	Partially met by various SMP RPPs	FP-1
Environmental/Habitat Goal: Protect, Enhance and Restore Habitat for Wildlife		
A. Restore and increase riparian, aquatic and other wildlife habitats	Partially met by SMP RPPs 5, 6, 9, 10	EH-1, EH-2, WS-4
B. Preserve and enhance natural, self-sustaining habitats wherever possible	Partially met by Res. 98-85	FP-1, EH-1, EH-2, EH-3, CP-3
C. Balance the preservation of native warmwater fisheries with the restoration of endangered/coldwater fisheries	Various SMP RPPs	EH-3, EH-4, WS-4,
D. Provide barrier-free physical passage for migratory aquatic and wildlife species	SMP RPPs 5, 6	EH-1, EH-2, EH-3
E. Preserve and increase buffer in upland, undeveloped areas	None identified	EH-1
F. Protect, restore and increase buffer for lowland areas	SMP RPP 4	FP-2, FP-1, EH-1
G. Protect existing and create new wetlands for multiple uses	SMP RPP 10	EH-1, EH-2
Community Participation/Recreation Goal: Encourage Community Participation in Coyote Watershed Stewardship Activities		
A. Ensure public safety along creeks	None identified	CP-1
B. Meet community aesthetic standards	Met by Coyote Watershed Aesthetic Guidelines.	
C. Increase and/or improve appropriate recreational features along creeks	Partially met by Res. 74-38, EPPs #1-420, #1-430	CP-1, CP-2
D. Foster among students a knowledge, respect and sense of stewardship for living streams	None identified	CP-3
E. Provide educational opportunities and interpretive resources for the general public	None identified	CP-1, CP-2, CP-3, CP-3.1
F. Provide outreach to community organizations and general public	None identified	CP-3

Goal/Objective	Existing Policies/ Procedures	Candidate Guidelines
G. Increase partnerships and support of groups (environmental, community, etc.) to preserve and restore aquatic, riparian and other habitat	Partially met by EPP #3-320	CP-3
Policy Implementation Goal: Implement the Plan in an efficient and effective manner		
A. Apply an integrated, adaptive management approach	None identified	PI-1
B. Foster coordination of District activities/projects with other agencies	None identified	PI-2
C. Support authority of appropriate groups to implement plans and actions	None identified	PI-2
D. Use existing institutional capacity to improve planning, regulatory and development programs	None identified	PI-1, PI-2, PI-3
E. Implement multi-objective planning process at District	None identified	PI-3
F. Optimize use of public and private resources to accomplish Plan goals	None identified	PI-3
G. Simplify compliance with regulatory requirements without compromising environmental protection	None identified	PI-1

Abbreviations:

EPP:	Engineering Policies and Procedures
SMP:	Stream Maintenance Program
RPP:	Resource Protection Policy
FP:	Flood Protection
WS:	Water Supply
EH:	Environment/Habitat
CP:	Community Protection/Recreation
PI:	Program Implementation
ND:	New Development

10.4 Water Supply

The objective of the candidate water supply guidelines is to outline the District position on providing an adequate supply of clean, healthy water for humans and wildlife. These guidelines will guide staff in considering water supply and water quality issues to the maximum extent possible during project development and implementation. Identified candidate water supply guidelines include demand management, recycled water, surface water quality, wildlife water supply and quality needs, and land use management in watersheds. Five guidelines were identified that primarily meet this water supply goal.

10.4.1 Water Demand Management (WS-1)

Water supply is in transition from an era of “supply management” to “demand management”. Increasing development costs, government fiscal restraint, increased demands, diminishing sources of water supply, and environmental constraints are moving the focus of developing “new” water supplies from large infrastructure projects to efficiently using existing water supplies through smaller reservoirs, water conservation, improved water-use efficiency and water recycling.

A water demand management guideline would allow District staff to consider demand management when developing and implementing Plan programs and projects. A demand management guideline would facilitate the development of programs and projects meeting the Ends Policies, the Integrated Water Resources Plan (IWRP) preferred strategy, and the Plan goals and objectives.

The objective of a water demand management guideline would be to outline the District position on demand management, and outline recommended components of a demand management program. Such components may include:

- Demand management education and promotion;
- Rate structure options to promote conservation and use of recycled water;
- Conservation programs including resource conserving devices (low-flow devices);
- Partnerships to promote water conservation education programs and projects;
- Improved water use efficiency; and

- Water reclamation and reuse.

This guideline could impact, among other projects, Implementation of the IWRP, water pricing structures, the uses and users of recycled water, and the candidate water conservation projects.

10.4.2 Recycled Water Uses/Users (WS-2)

Recycled water can be a reliable drought proof water supply for uses such as landscape irrigation, industrial cooling, stream flow augmentation, and wetlands enhancement. With the potential for new light industry, power generation facilities, and residential development in the Coyote Watershed, there may be opportunities to significantly expand recycled water uses in the District service area. A recycled water guideline would allow District staff to develop and implement programs and projects consistent with the Plan water supply goal through the appropriate use of recycled water.

There are currently several District policies covering recycled water issues. Resolution 90-62 outlines the District's support of water recycling to supplement District water supplies, and Resolution 97-60 outlines the District policy for funding recycled water construction projects.

The objective of a recycled water guideline would be to outline the type of recycled water users and uses that the District would encourage. In areas where recycled water of suitable quality is available, recycled water users/uses can be encouraged to include non-potable use in new developments, power generation facilities, industrial processes, cooling water, irrigation, landscaping, and environmental enhancement projects. The guideline would also identify areas where recycled water uses would be discouraged due to groundwater quality or quantity constraints, thereby minimizing conflicts with the Coyote Watershed groundwater objectives. Other components of this guideline could also include outlining the District position on developing partnerships with local agencies and businesses to support and/or encourage recycled water use, or local land development agencies that the District could work with to adopt recycled water use ordinances. Finally, the guideline would outline required treatment levels and technologies for all approved recycled water uses. As tertiary treatment technology is an ever-changing field, and with the identification of emerging contaminants such as NDMA or Endocrine Disruptors, the guideline could also outline the role of the District in supporting studies and partnerships that investigate new treatment technologies not currently in use in Santa Clara County.

This guideline might impact the Recycled Water Use Feasibility Study and the IWRP Implementation, along with the existing recycled water distribution systems at South Bay Water Recycling, Sunnyvale, Palo Alto and South County Water Recycling Authority.

10.4.3 Surface Water Quality (WS-3)

Because Coyote Creek is an impaired water body, it will need a specific water quality attainment strategy. Such a strategy would define specific and measurable features that describe strategies for attaining water quality standards, and would contribute to the development of surface water quality guidelines for Coyote Creek. It may also identify methods for data collection and analysis for a variety of constituents.

There are currently no policies that specifically identify the District position on surface water quality, though certain permits regulate nonpoint source discharges and the Ends Policy states that the water supply should meet or exceed all applicable standards.

A surface water quality guideline would outline the District position on participating in activities that define and track the data required for total maximum daily loading (TMDL) development, and aid in the tracking and monitoring of TMDL implementation. The guideline may also include language on participating in regional partnerships formed to develop and implement TMDLs. Creating such a guideline would allow District staff to proactively identify and implement Plan programs and projects that will help the District effectively meet water quality requirements and TMDLs once they are developed and implemented.

This guideline would potentially impact the Fisheries and Aquatic Habitat Collaborative Effort (FAHCE), Water Quality Management Plan, TMDL Management Program and Conjunctive Use Plan, among other existing and candidate projects.

10.4.4 Water Supply and Water Quality for Wildlife and Habitat (WS-4)

In order to promote stewardship of Coyote Watershed resources, water supply and flood protection must be balanced with protecting natural resource benefits. These benefits include wildlife living in streams, riparian areas, and open space. In order to protect these wildlife resources, an adequate supply of suitable quality water must be available.

There are currently no guidelines that identify the District position on surface water quality, outside of the requirements placed upon the District through its permit obligations. Current District water supply policies focus on management of water supply for human needs.

The objective of a candidate guideline covering this issue would outline the District position on providing adequate supply of sufficient quality water for wildlife purposes. Creating such a guideline allows the District to consider water needs of wildlife to the maximum extent possible when developing projects in the Coyote Watershed. In the Coyote Watershed, this guideline would specifically be directed to the two major creeks where streamflow can be regulated, Coyote and Upper Penitencia. The District does not have the ability to regulate streamflows on the other creeks.

This guideline would potentially impact the FAHCE process, Conjunctive Use Plan, Identification of Beneficial Uses in Coyote Watershed/Basin Plan Update and the Water Quality Management Plan, among other projects.

10.4.5 Land Use Management in Watersheds (WS-5)

The focus of efforts to protect water resources and attain water quality goals has shifted in recent years. Loadings from non-point sources now are generally considered to be the largest source of pollutants to aquatic systems. As a result, management of the watershed activities and resources to promote habitat health is considered to be the most effective approach to protecting the quality of water resources (SWRCB, 2001). Though the District does not regulate streamflows, it can advocate land use policies be adopted that minimize runoff.

EPP #2-510 outlines the District position on protecting the quality of water resources, but does not discuss watershed management as a potential method. SMP RPP #4, Watershed Restoration and Management, addresses watershed restoration and management activities associated with stream maintenance activities.

The objective of this candidate guideline would be to outline the District position on land use management in the Coyote Watershed, and throughout Santa Clara County, to protect District water supplies. Developing this guideline would assist District staff in considering land use management to the maximum extent possible when developing and implementing Plan programs and projects. Elements of the guidelines may include recommendations for new development construction, and regulating land use practices such as road building or grazing in currently undeveloped areas above District water supplies or other sensitive water resources. The guideline would also identify potential partnerships and outreach programs between the District and local land development agencies.

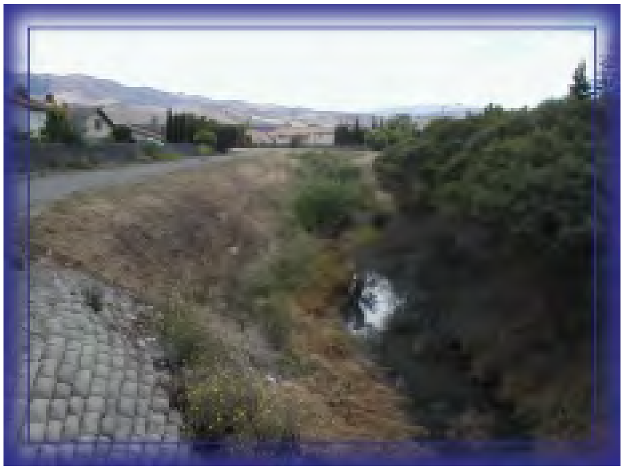
This guideline would impact existing and candidate new development guidelines in the Coyote Watershed, as well as open space and non-point source reduction candidate projects.

10.5 Flood Protection / Channel Maintenance

The objective of candidate flood protection guidelines is to outline the District position on flood protection methods and channel maintenance, including limiting expansion of the 1% floodplain and floodplain preservation, in order to guide district staff in considering flood protection methods when developing and implementing programs and projects in the Coyote Watershed. The guidelines for both flood protection/channel maintenance goals identified in Chapter 8 are combined in this section. Three guidelines that meet these goals were identified, though they may also meet additional Plan goals and objectives.

10.5.1 Limiting Expansion of the 1% Floodplain (FP-1)

Homes and businesses located in the 1% floodplain have a 1% chance of being flooded in any given year. Activities occurring in other areas of the watershed can result in expansion of the 1% floodplain. For example, increases in impervious areas associated with poorly planned developments can increase the size of the 1% floodplain, putting additional lives and property at risk from the 1% flood.



There are currently several District policies that address floodplain management, including EPP #3-210, which outlines the District floodplain management program, EPP #3-214, which provides the District definition of the 1% floodplain, and EPP #3-225,which outlines the District policy on flooding induced by development. However, there are currently no guidelines stating the District position on limiting expansion of the 1% floodplain.

Elements of this guideline would state the District position on fostering partnerships with local and federal agencies, such as FEMA, to limit expansion of the 1% floodplain through coordinated review of watershed development activities. The guideline may also state the District position on supporting City ordinances and policies that limit expansion of the 1% floodplain, including ordinances that reduce the percentage of impervious surfaces in new developments, and promote attenuation of stormwater. Recommendations for development of flood protection projects in flood prone reaches of Coyote Watershed streams would be included in the guideline. Development of this guideline would allow District staff to consider floodplain expansion issues in the development and implementation of Plan programs and projects.

This guideline would be coordinated with new development guidelines identified in Section 10.10, and could impact multiple flood control projects.

10.5.2 Floodplain Preservation (FP-2)

Protection of natural drainage systems and floodplains can be a cost-effective and beneficial approach to flood protection. Floodplain preservation has the added benefit of preserving natural resources and providing areas for recreational uses. Developing a guideline on floodplain preservation would allow District staff to consider floodplain preservation as a valuable, multi-disciplinary option when developing Plan flood protection projects.

There are several District policies addressing flood control and floodplain issues, including EPP #3-210, which outlines the District floodplain management program, EPP #3-240, which outlines compatible multi-purpose uses of District floodplains and EPP #3-250, which states the District policy on limiting flood control measures that rely on human intervention or operations plans. However, these policies do not cover floodplain preservation as a method of flood protection.

The objective of a floodplain preservation guideline would be to outline the District position on preserving floodplains for the purposes of maintaining floodplain functions and providing flood protection. Elements of this guideline may include positions on preserving existing open space, acquiring property for the purposes of floodplain preservation, and developing partnerships with agencies or landowners to encourage floodplain preservation. The guideline may also include the procedures for floodplain preservation, including identifying areas of the Coyote Watershed where floodplain preservation would be most beneficial (i.e. flood-prone or high-value areas).

This guideline could impact the current and candidate open space acquisition projects.

10.5.3 Habitat & Environmental Functions of Streams (FP-3)

Maintenance of stream functions is essential to providing for both flood protection and the long-term health of stream ecosystems. The District's SMP outlines several Resource Protection Policies for stream maintenance activities (SCVWD, 2001). The SMP Resource Protection Policies were developed to guide decision making for stream maintenance projects, and ensure that resources are protected to the furthest extent possible during routine stream maintenance projects and activities. The SMP policies address several resources areas, including:

- Erosion

- Fisheries
- Herbicides
- Hazardous Materials
- Listed Species And Species Of Concern
- Riparian And Shaded Habitat
- Site Dewatering
- Watershed Management
- Wetlands
- Work Site Management Practices

The objective of this guideline would be to outline the District position on balancing the contributions of streams for flood protection and natural resource benefits. Elements of this guideline would include channel restoration, sediment control and stream connection. Developing this guideline would assist District staff in considering the balance between these benefits to the maximum extent possible when developing and implementing Coyote Watershed programs and projects.

Implementation of this guideline would impact many of the candidate channel maintenance projects, as well as some of the environment/habitat projects.

10.6 Environmental / Habitat

The objective of candidate environmental/habitat guidelines would be to outline the District position on environmental and habitat protection, including ecosystem preservation and restoration, wetlands protection and creation, and fisheries protection and restoration. Developing guidelines for these issues will allow district staff to consider environmental and habitat protection during development and implementation of Coyote Watershed programs and projects. Four candidate environmental/habitat guidelines were identified to meet this goal.

10.6.1 Ecosystem Preservation and Restoration (EH-1)

One of the issues facing urbanizing areas is the conversion of open space and natural habitats to developed areas, resulting in the potential loss of biodiversity. Urban encroachment also subjects wildlife habitat areas to new pressures such as species introduction and impacts from recreational uses. In the face of development activities, sensitive plant and wildlife populations can only be protected through ecosystem preservation and protection. Ecosystems are important for a number of reasons including wildlife protection, maintenance of biodiversity sources, and erosion control (USEPA, 2001). Ecosystems that have been degraded due to human disturbance can potentially be restored through a variety of methods. Ecological restoration is the process of returning an ecosystem as closely as possible to its predisturbance conditions and functions. The restoration process reestablishes the general structure, function, and dynamic but self-sustaining behavior of the ecosystem (National Technical Information Service, 1999).

No existing policies focus specifically on ecosystem preservation, though the Ends Policy states “Watersheds, streams, and the natural resources therein are protected and when appropriate enhanced and restored.”

A candidate guideline addressing these issues would outline the District position on preservation and restoration of ecosystems and species habitat. Ecosystems and habitats would include riparian habitat, aquatic habitat, undeveloped upland areas, wetlands, and biological corridors. The guideline would outline areas within the Coyote Watershed where implementation would be most beneficial (i.e. high value areas). The guideline could include minimizing intrusive recreational activities in high value habitat areas, protecting habitat from destructive species such as feral cats and other introduced species, and supporting general plan policies and local ordinances that address habitat protection and restoration. Development of this guideline would assist District staff in developing Coyote Watershed programs and projects that consider ecosystem restoration to the maximum extent possible.

This guideline would impact many of the candidate and existing environment/habitat projects, as well as some of the channel maintenance projects.

10.6.2 Protection and Creation of Wetlands (EH-2)

Wetlands are important watershed components because they serve as the link between land and water resources, and are ecosystems necessary for the survival of a host of aquatic and terrestrial species. In addition, wetlands are integral parts of hydrologic system, and help clean water resources for beneficial uses. Like other ecosystems, wetlands are faced with pressures associated with encroaching development and growth, resulting in their loss and/or conversion to a developed land use. When faced with development pressures, wetlands are best protected through preservation. However, once lost, wetlands can be restored in historically degraded areas. The multiple benefits wetlands provide include water purification and treatment, recreation, resource enhancement, and wildlife habitat.

The District's SMP RPP #10, Wetlands Protection, outlines a policy to minimize impacts to wetland habitats related to routine stream maintenance activities. However, there is no policy that addresses the District position on wetland protection and creation in the Coyote Watershed.

A candidate guideline on wetlands would outline the District position on protection of existing and creation of new wetlands for multiple uses in the Coyote Watershed. The guideline would identify the District goals for multi-use wetlands, and the goals for wetland preservation and creation. The guideline would also identify the areas where implementation would be most beneficial, such as high-value areas including the Cargill salt ponds. Development of this guideline would allow District staff to consider wetlands protection and creation during development and implementation of Coyote Watershed programs and projects.

Implementation of this guideline could impact the Wetland Mitigation Project and the planned future salt pond conversion. It could also provide overall benefits to a wide variety of projects through the creation of a mitigation bank.

10.6.3 Special Status Species Protection (EH-3)

Populations of fish and wildlife have changed greatly in the past century due to a variety of natural and human-induced factors including habitat loss and degradation, introduced species and pollution (Goals Project, 1999). The State or Federal government now lists many species as either threatened or endangered, and many native species are considered species of concern. SMP RPP #5, Protection of Listed Species and Species of Concern, is directed at avoiding and minimizing impacts to listed species and species of concern during stream maintenance activities.

No policies or guidelines were identified that are directly related this subject.

A candidate guideline addressing special status species would outline the District position on protection and preservation of terrestrial and aquatic species in the Coyote Watershed that are considered threatened, endangered or otherwise of concern. This would include native species and riparian-dependant species. Development of this guideline would allow District staff to consider special status species during project development and implementation in the Coyote Watershed.

Implementation of this guideline would impact the Invasive, Non-Native and Destructive Species Control Program, Biological Corridors/Habitat Area Land Acquisition and Habitat Conservation Plan candidate projects.

10.6.4 Fisheries Protection and Restoration (EH-4)

Fisheries populations have declined in the past century due to a variety of factors, including habitat loss and degradation. Fish passage problems due to stream barriers also result in problems for salmonids and non-salmonid fish species including, delay and blockage of immigrating adults and the impedance and losses of emigrating juveniles. Delays in upstream migration of adult salmonids are considered adverse effects that reduce successful spawning rates.

SMP Policy #6, Fisheries Protection and Enhancement, ensures that potential impacts to fisheries do not occur and that opportunities for fisheries enhancement are recognized.

A candidate guideline would outline the District position on protecting and restoring Coyote Watershed fisheries, and identify District strategies for fisheries restoration and protection, such as fish screen installation, fish barrier removal, and riparian habitats protection within the Coyote Watershed. The guideline would include outlining the District position on protection and preservation of warmwater and coldwater fisheries habitats, and native fisheries. The guideline would help District staff identify Plan programs and projects that fulfill the District's goals for fisheries protection and restoration in the Coyote Watershed.

This guideline would impact many of the environment/habitat policies associated with aquatic habitat.

10.7 Community Participation and Recreation

The objective of community participation and recreation guidelines are to outline the District position on community participation and recreation activities in the Coyote Watershed, such as public safety, regional trails, and stream stewardship public outreach and education. Development of these guidelines will direct District staff in developing and implementing Plan programs and projects that meet the District position on community participation and recreation issues. Three candidate community participation and recreation guidelines were identified.

10.7.1 Public Safety on District Facilities (CP-1)

Public safety is often a concern of individuals who utilize District facilities for recreation, such as walking, jogging, hiking or other activities. Some safety concerns center around homeless encampments found in riparian areas along streams and flood control channels, while others deal with providing adequate lighting or communication facilities. Homeless encampments can present a health and safety problem to both homeless people inhabiting the encampments as well as for those using District facilities for appropriate uses.

The District encourages joint use of its facilities where feasible and practical. Several District policies outline recreational use of District facilities including:

- Resolution #74-38: outlines the District policy on joint use;
- Resolution #72-44: outlines joint use of groundwater recharge facilities;
- EPP #1-420: expresses District support for creek park chains; and
- EPP #1-430: outlines the District endorsement of Santa Clara County trails and pathways.

A candidate guideline on this issue would address public safety on District owned lands in the Coyote Watershed. Guideline component would identify the District position on providing lighting and call boxes, sanitation improvements such as the installation of trash containers, regulating access, patrolling District owned lands and minimizing public access to naturally hazardous terrain. The guideline would state the District position on homeless encampments along creeks in the watershed. Because homelessness is a complex issue, the guideline would also include the District position on coordinating with local agencies and groups on homeless issues. The full development and implementation of this guideline would need to be coordinated with local law enforcement organizations.

10.7.2 Extension of Regional Trails (CP-2)

There are several regional trail projects currently under way in the Bay Area, including the Bay Area Ridge Trail and the San Francisco Bay Trail. These regional trails are planned recreational corridors that will provide easily accessible recreational opportunities for hikers, joggers, bicyclists and skaters. Other benefits of these trails include opportunities for wildlife viewing and environmental education, and increased knowledge of non-urban habitats. A map of the existing and proposed regional trail locations in the Coyote Watershed is located in Chapter 4.

The District main policy on trails is outlined in EPP #1-430. This policy outlines the District endorsement of Santa Clara County trails and pathways throughout the Coyote Watershed. Ends Policy 2.2 also states “There are additional open spaces, trails, and parks along creeks and in the watersheds when reasonable and appropriate.” However, the policies do not explicitly identify the District position on extending existing or planned regional trails.

Developing a guideline on extension of regional trails would include components such as extending regional trails in the Coyote Watershed, including extension of the planned regional trail projects and minimizing the intrusive aspects of trails. It would guide District staff in considering trail extensions to the greatest extent possible when developing Plan projects and programs.

This guideline would also need to be structured to ensure that the trail construction is not intrusive, and is coordinated with other trail planning efforts, such as the Districts Open Space, Trails and Parks Master Planning effort, City of Milpitas and Santa Clara County Trails Master Plan.

10.7.3 Stream Stewardship Education and Outreach (CP-3)

The District Public Information Office (PIO) is currently developing education and outreach policies for the District. As the education and outreach policies are drafted by the PIO, this section will be updated as needed.

Public education and outreach guidelines for the Coyote Watershed would include components such as providing educational opportunities and interpretive resources for the general public in the Coyote Watershed, as well as providing public outreach and education to property owners and residents on flood protection and invasive plant issues. Stream stewardship education and outreach guidelines would also include providing educational programs for students in secondary and K-12 educational institutions on stream stewardship. Development of these guidelines for the Watershed would allow District staff to consider public education and outreach when developing and implementing Plan programs and projects.

10.8 Program Implementation

Candidate program implementation guidelines would help guide District staff in effective and efficient implementation of the Plan program.

In general, implementation of any or all of program implementation guidelines will influence numerous projects located throughout the Coyote Watershed or District service area.

10.8.1 Management Approach to Plan Implementation (PI-1)

A candidate guideline on Plan implementation would assist District staff in developing an integrative, adaptive management approach to implementing the Coyote Watershed Plan. Such an approach would include: identifying recommended changes, implementing changes, monitoring benefits, and adjusting the program if needed to reach the intended target.

10.8.2 Availability of Sensitive Data (PI-2)

The District may work with other agencies or groups to implement projects or activities in the Coyote Watershed. Working with outside groups or agencies will require information sharing, some of which may contain sensitive information such as the location of sensitive cultural resources or endangered species habitat. In order to protect such resources, the District should develop a guideline on the procedure for sharing and/or publicizing habitat data and other sensitive resources data. Developing a guideline to address this issue would allow District staff to effectively work with other agencies or groups to implement Plan programs and projects.

10.8.3 Funding Plan Projects and Programs (PI-3)

A mechanism for partnership with others would help to leverage external resources and to ensure efficient use of pooled resources in sharing stewardship responsibilities. A candidate guideline on funding would state the District position on utilizing both public and private resources, including Costa-Machado Water Bond Act grant funding, to fund Plan projects or programs. The guideline may include potential partnerships that can be developed with local agencies or other groups to develop collaborative grant applications and acquire joint grant funds. It would also establish procedures for determining which Plan projects would be submitted for funding when grant funding sources are identified. Developing a funding guideline will guide District staff to effectively seek and obtain appropriate funding sources for Plan programs and projects to the maximum extent possible.

10.9 New Development

In addition to the previous sections, which developed guidelines for the goals outlined in Chapter 8, candidate guidelines were also created for new development issues. Because some of the impacts associated with new development may affect several of the areas addressed by the Plan, candidate new development guidelines were believed to warrant discussion individually. Each new development candidate guideline may meet one or more of the Plan goals and objectives and outlines methods for District staff to include new development issues in the Coyote Watershed.

In general, implementation of any or all of new development guidelines will influence numerous projects located throughout the Coyote Watershed or District service area, even if the area is not located where new development controls are implemented.

10.9.1 New Developments and New Development Review (ND-1)

The District response to land development proposals has historically been reactive. Plans and proposals are often sent to the District too late in the application process to adequately address and incorporate District comments into the project design. In response to intensified water quality and environmental concerns, the District review of land development proposals now includes review of all issues that directly or indirectly impact the watercourse, such as stormwater runoff, and erosion and sedimentation. Ultimate permitting authority for new development lies with the cities and County, and the District must rely on those agencies to place conditions on development projects that adequately address District water supply and flood protection measures.

A candidate new development guideline would outline the District position on new development review, and guide District staff in developing new development review procedures for the Coyote Watershed. The guideline would include several elements related to new developments and the new development review process including:

- *Encouragement of City and County policies that incorporate District positions:* The guideline would state the District position on encouraging local jurisdictions adopt General Plan policies and development review policies that address District concerns related to water supply, flood protection, recreation and environment and habitat protection.

- *Development of outreach methods and partnerships with the Cities and County:* The guideline would include methods to develop cooperative and interactive relationships with the cities and County on development issues. These methods may include outreach, education, and proactive coordination with City and County elected officials, managers and staff, particularly those in public works and the planning department associated with development review. Outreach would focus on informing and educating the cities and the County on District concerns related to new development impacts.

- *Establishment of District review procedure:* Formal review procedures for interacting with local City and County departments during the new development process would be identified. This would include defining a process by which the District, Cities, and County define which projects the District should review. This guideline also would include defining the District role during new development, defining points in the process where District review would be solicited from the Cities and County, and developing a tracking system for District comments on new development proposals.

- *Development of a Memorandum of Understanding (MOU):* The guideline may also include the District position on working with the Cities and the County to develop a Memorandum of Understanding (MOU) that establishes a procedure for District involvement and interaction with the cities and County during the new development review process. An MOU may include procedures for involving the District early in the review process, and developing a procedure for tracking and incorporating District comments to new development designs.

10.9.2 BMPs for New Developments (ND-2)

Development, such as buildings, roads, parking lots and sidewalks, prevents stormwater from infiltrating into the soils. Runoff washing off impervious surfaces can pick up a variety of pollutants, such as oil, pesticides, metals, chemicals, and soil. Implementing stormwater BMPs in new developments can mitigate these adverse affects. BMPs include permeable pavements, retention/detention facilities, and grassy swales. BMPs can also include minor modifications to site designs such as minimizing directly connected impervious areas.

The candidate guideline on BMPs would outline the District position on encouraging land development agencies to require that BMPs be incorporated into development plans for new and infill developments in the Coyote Watershed. Component guidelines may also state the District endorsement for standard BMPs or design manuals, such as the “Start at the Source Manual” produced by the Bay Area Stormwater Management Agencies Association (BASMAA) (BASMAA, 1999), or the SCVURPPP’s Parking lot BMP report (no reference). The guideline may also outline the District position on conducting outreach activities to local land development agencies on BMP issues.

10.9.3 New Development Recycled Water Ordinance (ND-3)

A recycled water ordinance would require or encourage new developments to include dual plumbing to provide recycled water for non-potable uses such as landscape irrigation. The objective of the candidate guideline on this issue would be to state the District position on supporting a recycled water ordinance for new developments in the Coyote Watershed. The guideline may also include potential partnerships that the District could develop to encourage implementation of a recycled water ordinance for new developments.

10.10 Summary and Next Steps

Candidate guidelines identified in this chapter are summarized in Table 10-2. As the Coyote Watershed Plan is developed, prioritization and implementation of these candidate guidelines will be prioritized and implemented in Chapters 12 and 14. A decision on the most effective method of policy implementation, i.e. Board adoption, Management Procedures or general Staff Guidelines, will also be evaluated as necessary. As the guidelines are implemented, Chapter 5 will be updated in future versions of the Coyote Watershed Plan, and Chapter 10 modified accordingly.

Note that all of the identified candidate guidelines can be adapted to be viable District-wide.

TABLE 10-2: SUMMARY OF IDENTIFIED CANDIDATE GUIDELINES

Guideline No.	Subject	Components
WS-1	Water Demand Management	Outline components of a demand management program. Such components may include: demand management and education, rate structure options to promote conservation and use of recycled water, conservation programs, improved water efficiency, and water reclamation and reuse.
WS-2	Recycled Water Uses/Users	Outline recycled water users and uses that the District would encourage. Areas where recycled water uses would be discouraged due to groundwater, such as areas where unconfined groundwater aquifers exist, would be identified. Partnerships with local recycled water agencies would also be encouraged.
WS-3	Surface Water Quality	Outline participation in activities that define and track the data required for surface water quality improvements and aid in the tracking and monitoring of water quality implementation programs. Also may include participation in regional partnerships formed to develop and implement water quality standards.
WS-4	Water Supply and Water Quality for Wildlife/Habitat	Components include strategies for providing and adequate water supply of sufficient quality water for wildlife purposes. May include changes in operation, identification of habitat and other measures.
WS-5	Land Use Management in Watersheds	Land use management for the preservation of open space and high quality water supplies. Partnerships and outreach programs with local land development agencies that could be encouraged or developed.
FP-1	Limiting Expansion of the 1% Floodplain	Partnerships with local agencies to limit expansion of the 1% floodplain in the Coyote Watershed, including supporting City ordinances and policies limiting 1% floodplain expansion, ordinances limiting impervious surfaces, and new development.

Guideline No.	Subject	Components
FP-2	Floodplain Preservation	Preservation of floodplains to maintain floodplain functions and provide flood protection. Component could include identifying high-value or flood prone areas, and process for acquiring lands for the purposes of floodplain preservation.
FP-3	Habitat/Environmental Functions of Streams	Outline the District position on balancing the contributions of streams for flood protection and in providing natural resource benefits.
EH-1	Ecosystem Preservation and Restoration	Outline the District position on preservation and protection of ecosystem habitat. Ecosystems and habitats would include riparian and aquatic habitat, undeveloped upland areas, wetlands, and biological corridors. Areas where implementation would be most beneficial (i.e. high-value areas) would be identified.
EH-2	Protection and Creation of Wetlands	This guideline would identify District goals for multi-use wetlands, and the goals for their preservation and creation. Components of this guideline include identifying areas where implementation of the guidelinewould be most beneficial.
EH-3	Special Status Species Protection	This guideline would outline the District position on protection and preservation of terrestrial and aquatic species. This would include the protection and restoration of native species, including native fisheries and threatened or endangered species.
EH-4	Fisheries Protection and Restoration	This guideline would include protection and preservation of warmwater and coldwater fisheries habitats and identifying District supported strategies for fisheries restoration and protection such as fish screens, removing fish barriers, and protecting riparian habitats.
CP-1	Public Safety on District Facilities	The guideline components may include providing lighting and call boxes, regulating access, patrolling District owned lands and minimizing public access to naturally hazardous terrain.
CP-2	Extension of Regional Trails	The candidate guideline would outline the District position on extending regional trails and include language about entering into partnerships with local groups working to implement regional trail projects.
CP-3	Stream Stewardship Education and Outreach	The guideline components would include providing educational opportunities and interpretive resources for the general public on issues such as steam stewardship, flood protection, and invasive plant education. Also could include providing stream stewardship educational programs for K-12 students and institutions.
PI-1	Management Approach to Plan Implementation	This guideline would assist in development of an integrative, adaptive management approach to implementing the Plan. Such an approach may include: identifying recommended changes, implementing changes, monitoring benefits, and adjusting the program if needed to reach the intended target.
PI-2	Availability of Sensitive Data	The guideline would identify District's procedures for making sensitive data available to the public. Such data may include shape files showing sensitive habitat data, habitat availability and species distribution data.

Guideline No.	Subject	Components
PI-3	Funding Plan Projects and Programs	This guideline could set conditions for potential partnerships that can be developed with local agencies or other groups to develop collaborative grant applications and acquire joint grant funds. It would also establish procedures for determining which Plan projects would be submitted for funding when grant funding sources are identified.
ND-1	New Development Review	New development review guidelines would include the following components: 1. Encouraging development of City and County general plan and review policies that incorporate the District position; 2. Outreach and developing partnerships with cities and the County on new development review; 3. Establishing District review procedure; and 4. Developing MOU with the Cities and County on the new development review procedures.
ND-2	BMPs for New Development	The guideline would identify what standard stormwater and runoff BMPs would be included into what projects. The guideline would outline BMPs that are acceptable to the District and guidelines for implementing BMPs. It could also outline procedures for developing BMPs, and working with other local agencies on implementation and enforcement.
ND-3	New Development Recycled Water Ordinance	This guideline would state the District position on the type and location of the use of recycled water for new developments. It may also include potential partnerships that the District could develop to encourage implementation and use where appropriate.

10.11 References

1. BASMAA 1999. *Start at the Source: Design Guidance Manual for Stormwater Quality Protection.* Bay Area Stormwater Management Agencies Association. 1999.

2. California Native Plant Society. 1999. Policy on the Intentional Introduction of Non-Native Species. www.cnps.org/archives/introductions.htm

3. Emergency Housing Consortium. 2001. Webpage. www.homeless.com

4. Goals Project. 1999. Baylands Ecosystem Habitat Goals. A report of habitat recommendations prepared by the San Francisco Bay Area Wetlands Ecosystem Goals Project. First Reprint. US Environmental Protection Agency, San Francisco, CA/SF Bay Regional Water Quality Control Board, Oakland, CA.

5. National Technical Information Service. 1999. Stream Corridor Restoration - Principals, Processes, Practices.

6. Santa Clara Valley Water District. March 2001. Draft Stream Maintenance Program.

7. Santa Clara Valley Water District. December 2000. Governance Policies of the Board of Directors.

8. State Water Resources Control Board. 2001. Opportunity, Responsibility, Accountability: Nonpoint Source Range Management.

9. US Environmental Protection Agency. 2001. Pollution Prevention/Environmental Impact Checklist for Habitat Preservation and Protection. www.es.epa.gov/oeca/ofa/pollprev/habitat.html

Chapter 11 Candidate O & M Activities

This Chapter summarizes candidate O & M activities that would help to achieve the Plan goals and objectives identified in Chapter 8. Activities differ from projects in that they are typically associated with one of the following subject areas and typically performed by District Field Operations Units on an ongoing basis. These types of activities include:

- Water Supply Operations;
- Stream Maintenance;
- Water Quality Protection; and
- Santa Clara Valley Urban Runoff Pollution Prevention Program;

Water Supply O & M activities were not identified in this section. It is expected that these activities would be addressed through the District's IWRP process and ongoing efforts by Water Supply Management staff. This chapter is limited to addressing the remaining three activities.

These activities were preliminarily identified by District Staff and local stakeholders through the Coyote Watershed Work Group of the Watershed Management Initiative (WMI) and individual interviews with Staff. Prioritization of these programs and projects will be conducted in Chapter 12 of this Coyote Watershed Stream Stewardship Plan (the Plan). These differ from capital projects in that they are considered in this document to not have a defined endpoint. Programs differ from O & M activities in that they would be performed by Staff other than those in the Watershed Manager's Field Operations Unit, or funded as a capital project.

Implementation of candidate O & M activities will be ranked in Chapter 12 in conjunction with candidate projects and programs identified in Chapter 9. It is expected that prior to implementation, additional refinement of these activities would be required.

11.1 Summary of Candidate O & M Activities

Staff identified a total of seven candidate O & M activities. These activities are listed below:

- Coyote Watershed Fire Management Program (A-1);
- Maintenance Work Order Manual (A-2);
- *Activity A-3 was deleted;*
- Facilities Assets Management System (A-4);
- Stream Morphology Classification (A-5);
- Coyote Watershed Training Program (A-6);
- Cherry Flat Reservoir (A-7); and
- Non-District Owned Stormwater Control Facilities Program (A-8).

Each of the activities were arbitrarily assigned a unique number identifying it as an activity. These were not numbered in a similar manner as projects or programs listed in Chapter 9 to avoid confusion. Additional information about each project is summarized below.

Coyote Watershed Fire Management Program (A-1): This activity would replicate the existing Llagas Watershed Fire Management Program in the Coyote Watershed. The District is currently supporting the California Department of Forestry (CDF) in this effort by providing water storage, helispots, fire access truck trails and 75-150 foot firebreaks in various locations. The actual work performed each year varies according to annual work plans prepared by the District and submitted to the CDF. The desired outcome of this effort is to reduce both fire damage and sediment contribution to reservoirs and waterways. Expanding this program to the Coyote Watershed could also help minimize the loss of riparian habitats destroyed by fires, and improve upstream water quality by minimizing sediment transport.

The potential for forest fires in the Coyote Watershed is similar to the Llagas Watershed. Proactive measures that would benefit District operations could be studied in concert with the CDF. The District could also partner with the Guadalupe/Coyote Resource Conservation District, in a manner similar to the arrangement in the Llagas Watershed to fund extension of this program into the Coyote Watershed.

Replication of this Fire Management program to the Coyote Watershed may or may not be covered under the Stream Maintenance Program EIR. Therefore, depending on the scale of the expanded firebreak program, an EIR and associated permits may need to be secured prior to implementation.

Maintenance Work Order Manual (A-2): The goal of this operation is to maintain a Maintenance Work Order Manual for the Coyote and Uvas/Llagas Watershed Management Unit. The District uses work order protocols in conjunction with a computerized work order management system to plan, schedule, and document maintenance activities. However, written procedures and guidelines for the planning, scheduling, and execution of work orders are not available.

This activity will develop, implement, and maintain a maintenance work order manual that provides policies, procedures, work sheets, design and specifications guidance, BMPs, checklists, charts, forms, and other information that assist in the planning, scheduling, execution, documentation, and closure of maintenance activities.

As a risk management tool, the guidance and procedures manual would clearly delineate Staff roles and responsibilities, and provide a standard for quality assurance and quality control to ensure a minimum level of thoroughness and consistency between maintenance activities within watershed management units. Additionally, a procedure manual can also be used to keep field operations planners and administrators up-to-date on the latest developments in policies, regulatory requirements, best management practices, pollution control measures, etc. It would also provide a means for incorporating these updates into the planning and execution of watershed field operations. The manual can also serve as a core element of the training provided to field operations and program support personnel.

This effort could be coupled with the District's NPDES permit condition requiring the development of O & M performance standards and drafting and implementation of BMP manuals.

Activity A-3 was deleted.

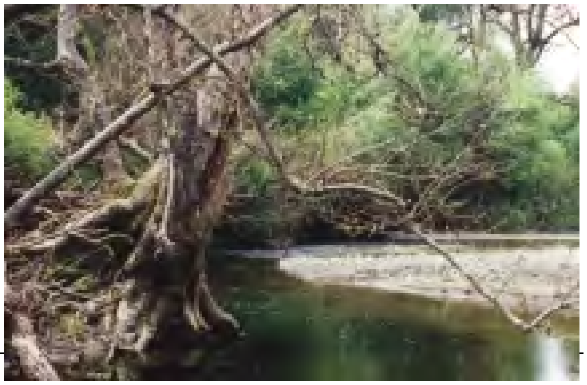
Facilities Assets Management System (A-4): The goal of this operation is to create and maintain an asset management system for District facilities, particularly those operated by the Watershed Management Division.

To ensure consistent performance, plan for major facility upgrades, and coordinate ongoing maintenance, the District would utilize the Watershed Inventory Study (see Chapter 9) to track District assets. Following up on this study, the information would be maintained in a database and tracked to determine when required maintenance is necessary for each component of the District's inventory. The system could also be used to record current conditions or field notes.

This asset management project would be limited to facilities maintained by Field Operations Staff under the direction of the Watershed Manager. The Staff and type of maintenance required of other District facilities, such as water supply facilities, would require separate staff with separate expertise, experience and equipment.

This operation will build on and/or has a potential linkage with the following District activities:

- Project No. 602711 – Computerized Maintenance Management System, Fiscal Year 2001-2003 Detailed Budget, Book One, Page 229.
- Project No. 000416 – Flooding and Facilities Map Update, Fiscal Year 2001-2003 Detailed Budget, Book Two, Page 22.



Stream Geomorphology Classification (A-5): Conventionally, the District approach to flood control has largely centered on alterations of stream and channel geometry. In these efforts, little attention was historically directed to the stream geomorphological characteristics, their corresponding ecological potential, or their inherent tendencies for flow conveyance, erosion, and sedimentation. Consequently, the focus of maintenance efforts along streams and improved channels has traditionally been that of repair and correction rather than of management and prevention. Emerging trends are bringing about a need for a “softer” approach to flood management with emphasis in riverine, riparian and watershed stewardship.

This candidate training activity would assist Staff in the design and identification of the existing states of streams versus their geomorphic potential through the application of the Stream Geomorphological Classification. This type of classification includes an assessment of channel conditions, potential for geomorphic rehabilitation, impact-use effects, and alternative management scenarios for either local or regional scale watersheds. Classification of streams can also identify width/depth ratios, riffle/pool and step/pool sequences and debris spacing. This project would likely be coordinated with existing SCVURPPP stream segmentation efforts. Following classification, efforts could be undertaken to evaluate the potential for geomorphological rehabilitation, analysis of structural, institutional or other changes needed for implementation of potential stream geomorphological characteristics. Training of District staff in geomorphological design may also be desired.

The recent adoption of the Board’s Ends Policy has directed staff to construct flood protection projects in a manner minimizing the impact or enhancing the watersheds they protect. In addition to such training efforts, the District, particularly design engineers, would need to further understand the functional relationships among the dimension, pattern, and profile of the natural, stable channel form for the wide variety of river types within the Santa Clara Valley.

Coyote Watershed Training Program (A-6): The goal of this operation is to establish and continuously improve a comprehensive Training Program for the Coyote Watershed staff. Training is a critical element in the ongoing development of Staff and their overall development as a District employee. It has been suggested that additional training programs in the following fields would assist District Staff:

- Occupational health and safety;
- Pollution prevention;
- Environmental stewardship; and
- Watershed management.

Existing and evolving requirements for training of field and office personnel need to be delivered in a coherent, consistent, cost-effective, comprehensive and continuously improving manner. To be cost-effective, the training program must be guided by specific policies and structured around carefully developed goals, and objectives. To be comprehensive, the program would need to address and coordinate all training efforts related to trade and professional development, policies and procedures, regulatory, project, or program requirements, emergency preparedness and response, etc.

Cherry Flat Reservoir (A-7): The goal of this operation is to modify the operation of Cherry Flat Reservoir, located on Upper Penitencia Creek, to protect, enhance and restore aquatic habitat in downstream reaches.

This reservoir on Upper Penitencia Creek is currently operated by the City of San Jose for recreational needs. Releases are scheduled during the weekend to coordinate with public recreation activities and beautify the creek on peak use days. The FAHCE project has identified Penitencia Creek as good coldwater aquatic habitat for steelhead with good pools and riffles for spawning. Proper management of the reservoir presents an opportunity for enhancing habitats and protecting and improving aquatic habitats in a manner that would enhance local coldwater habitat.

- Any modifications to the operation of Upper Penitencia Creek would need to be coordinated with the FAHCE project (see Chapter 4). Based on the recommendations and desired outcomes of that project, specific desired operational activities for the reservoir would be formulated to meet those needs.

Non-District Owned Stormwater Control Facilities Program (A-8): Maintenance of flood management and stormwater control facilities not owned by the District is important for ensuring adequate flood protection is provided to all. This activity would evaluate District options for ensuring proper maintenance and effectiveness of privately owned flood management and stormwater control facilities. These options could include expanding District jurisdiction over waterways, implementing BMPs and identifying performance standards. The goal of this operation is to establish a mechanism for mandating and enforcing long-term maintenance of privately owned flood management and storm water pollution prevention facilities and control measures in Santa Clara County.

This is a highly complicated initiative that will require considerable resolve and persistence on the part of the District. It is not clear whether this activity is an avenue that is called for in the current NPDES permit and associated performance standards applicable to the District within the framework of the SCVURPPP. Further analyses are required to determine if a regulatory driver is in place, or if other directives like District policies or WMI outcomes might be the more applicable drivers for such an operation.

This operation has a significant political dimension revolving around the very sensitive and highly contentious issues of property rights and the extent to which government may infringe on these rights in the pursuit of the public good. The outcome of an initiative of this type is likely to carry wider implications reaching beyond its purpose and focus. Consequently, extreme care and caution need to be exercised in the introduction of this idea, and the strong conviction and full support of the District Board of Directors will have to be garnered for this initiative before it is pursued to any degree.

11.2 Summary

This section presented seven candidate O & M activities that could be implemented in the Coyote Watershed by the District to achieve the Ends Policy in the Coyote Watershed. These activities will be ranked in Chapter 12 in conjunction with the candidate projects and programs identified in Chapter 9, and prioritized for future implementation.

It is expected that significant Staff involvement in scope refinement and project requirements would be expected during the planning phase of each project, should one of these activities be selected for implementation.

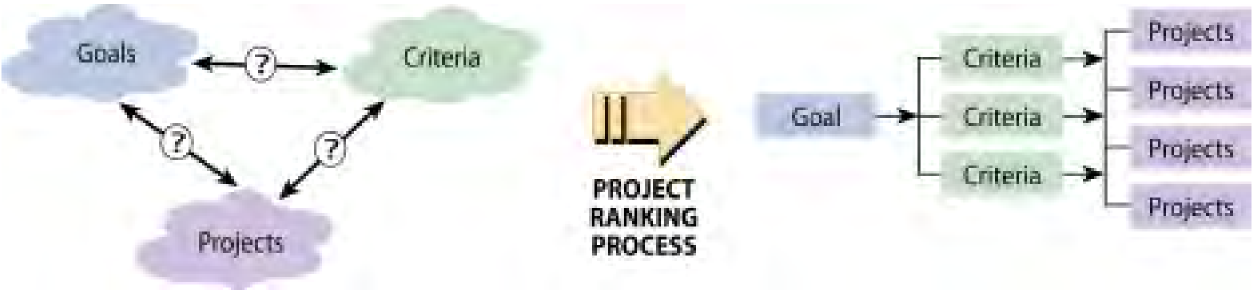
11.3 References

1. Rosgen, Dave, Silvey, Hilton Lee, *Applied River Morphology*, Wildland Hydrology, 1996
2. SCVURPP, URS Corporation, *Channel Maintenance Pollution Prevention Processes Design Proposal*, December 13, 2000
3. SCVWD, Ali-Adeeb, Neddal, Goldie, Beau, *Review and Evaluation Report for Standish Dam Removal Events on October 14, 1997,* January 12, 1998
4. SCVWD, California Department of Forestry and Fire Protection, Public Law 566, *Upper Llagas Creek Flood and Fire Control Project*, 5 Year Agreement, 2001-2006
5. SCVWD, *Coyote/Uvas/Llagas Watershed 2001 Business Plan – Draft*, January 9, 2001
6. SCVWD, Coyote/Uvas/Llagas Watershed 2001 Business Plan, January 9, 2001.
7. SCVWD, District Detailed Budget Manuals, FY2001-2003.
8. SCVWD, *Draft Environmental Impact Report and Stream Maintenance Program*, March 28, 2001
9. SCVWD, Governance Policies, November 2000.
10. SCVWD*, Urban Runoff Management Plan, Chapter 16*, September 1, 1997, Revised October 11, 2000

Chapter 12 Ranking of Programs and Projects

Goals and objectives for the Stream Stewardship Program (the Plan) were developed in Chapter 8 and candidate projects; guidelines and programs were developed in Chapters 7 through 11. Chapter 12 develops a project ranking process that translates the goals and objectives into measurable criteria, then ranks the candidate projects and programs against the criteria. The order in which projects are ranked directly reflect the relative importance placed on the criteria by District Staff and the Coyote Watershed Workgroup. Implementation strategies will be developed in Chapter 14 based on the results of the project rankings and funding considerations.

FIGURE 12-1: THE PROJECT RANKING PROCESS DEFINES THE RELATIONSHIP BETWEEN GOALS, CRITERIA, AND PROJECTS



The Stream Stewardship Program is the first District program to specifically focus on the overall *stewardship* of streams and watershed resources versus, for example, programs with a primary focus towards flood protection or water supply. The Plan is based on transforming the direction established by the District's Ends Policy into specific stewardship objectives. Providing stewardship of District maintained streams requires evaluating projects from a holistic viewpoint, i.e. determining how flood protection, habitat enhancement, community participation, and providing water supply can work together for the benefit of the streams. The development of the project ranking reflects this viewpoint and incorporates multi-perspective criteria to evaluate and rank the projects relative to each other. The ranking process is based on the goals and objectives of the Plan and the Board's Ends Policies.

This chapter contains the following sections:

Section 12.1 – Project Ranking Process - Describes the process of ranking the projects, including identifying criteria, determining metrics and evaluating projects
Section 12.2 – Results of the Project Ranking Process
Section 12.3 – Next Steps

12.1 Project Ranking Process

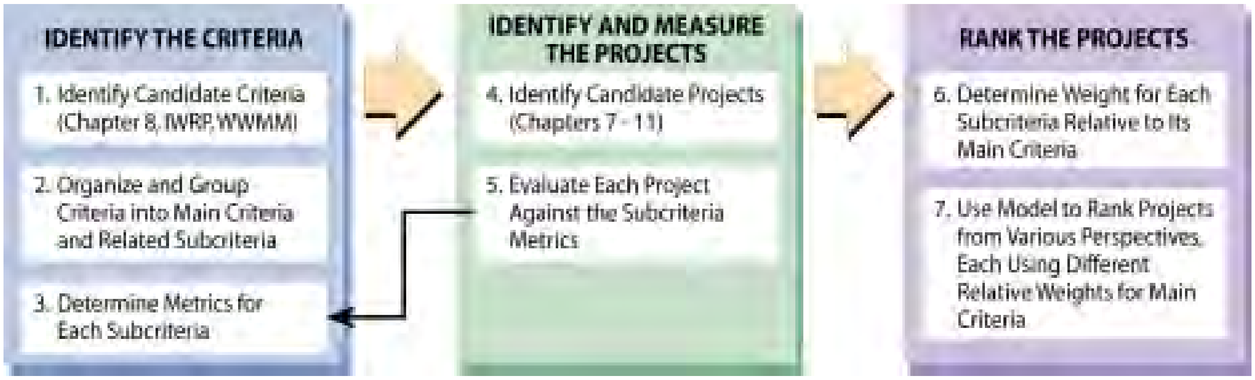
The project ranking process provides a framework for making decisions based on what is known (facts), what is unknown (uncertainties), what the options are (alternatives) and the stakeholders' preferences (values and goals). This framework is input into decision analysis software such as Criterium Decision Plus® (CDP) to create a project ranking model. The project ranking process can help District staff make better decisions by:

- Building consensus among multiple stakeholders with different goals and values;
- Allowing decisions to be made in real-time in workshop settings;
- Including both quantitative and qualitative criteria;
- Ranking the projects from multiple perspectives; and
- Thoroughly documenting the project-ranking process.

The strength of the project ranking process can also be its limitation, i.e. the process is a reflection of the project team and stakeholders' viewpoint at a specific time. Therefore, it is critical to ensure that the individuals providing input to the project ranking process are knowledgeable about the issues and have the authority to represent their organization's views. The ranking process also reflects the project ranking based on conditions at the time the ranking was done. It is not meant to be static and should be updated and re-run at the time decisions are made to ensure that the project ranking process represents the current watershed conditions and District policies.

Figure 12-2 illustrates the seven steps included in the project ranking process.

FIGURE 12-2: THE PROJECT RANKING PROCESS INCLUDES SEVEN STEPS


IDENTIFY THE CRITERIA
1. Identify Candidate Criteria (Chapter 8, IWRP, WWMM)
2. Organize and Group Criteria into Main Criteria and Related Subcriteria
3. Determine Metrics for Each Subcriteria
IDENTIFY AND MEASURE THE PROJECTS
4. Identify Candidate Projects (Chapters 7 - 11)
5. Evaluate Each Project Against the Subcriteria Metrics
RANK THE PROJECTS
6. Determine Weight for Each Subcriteria Relative to Its Main Criteria
7. Use Model to Rank Projects from Various Perspectives, Each Using Different Relative Weights for Main Criteria

Each of these seven steps is discussed in the following sections. To improve readability, the text contains excerpts of the ranking process as examples. The complete spreadsheets documenting each step are included as Attachments at the end of Chapter 12.

12.1.1 Identify Candidate Criteria

The criteria used in the project ranking process should have the following characteristics:

- The criteria need to distinguish between the projects;
- The criteria need to be independent, so nothing is “double-counted”, i.e. credit is not given twice for the same criteria; and
- The criteria set needs to be complete.

Goals and objectives for the Plan were developed in Chapter 8 based on input from District staff and from the Coyote Watershed Workgroup. These goals and objectives became the foundation for the candidate criteria used in the Plan project ranking process. The Plan goals and objectives were supplemented by criteria used in the project evaluation processes used by the District in other programs, specifically the Integrated Water Resources Plan (IWRP) and in the Waterways Management Model (WWMM).

As a result, there were a total of 61 candidate criteria for the Plan project ranking process. Table 12-1 is an excerpt from the list of candidate criteria. The table includes a tracking number for each criteria, its source, the goal it addresses, and its objective. The goals are water supply, flood protection, environment/habitat, community participation/recreation, cost, and implementation. The complete list appears as Table 12A-1 in the Attachments at the end of this chapter.

TABLE 12-1: EXCERPT FROM LIST OF CANDIDATE CRITERIA

Number	Source	Goal	Objective
1	Ch. 8	ws	Provide a reliable supply of healthy, clean drinking water
2	Ch. 8	ws	Reduce/manage total potable water demand
6	Ch. 8	eh	Restore impaired water bodies (TMDLs)
7	Ch. 8	fp	Minimize expansion of the 1% floodplain
23	Ch. 8	cpr	Ensure public safety along creeks
30	IWRP	ws	Provide equal reliability of water throughout the county
42	WWMM	fp	Protect developed areas – total acres of developed land subject to flooding

12.1.2 Organize and Group Criteria and Subcriteria

The 61 candidate criteria identified in the first step of the process were then grouped into main criteria and subcriteria. In looking at the candidate criteria, they fell within six main categories, which became the six main criteria. Four of these criteria - water supply, flood protection/channel maintenance, community participation/recreation and project implementation - originated from the Plan goals. The other two main criteria, cost and implementation issues, were included as criteria applicable to most projects. The remaining candidate criteria became subsets, or subcriteria, under these main categories. The results of this grouping are shown in Table 12A-2a in the Attachments at the end of this chapter.

After the candidate criteria were grouped into main and subcriteria, they were examined to eliminate duplicate or similar subcriteria. Similar subcriteria were merged into one subcriteria covering the intent of the original. Documentation for merging the subcriteria is shown in Table 12A-2b in the Attachments at the end of this chapter.

Three of the main criteria were eliminated from the project ranking process at this point:

- **Water supply:** Criteria that pertained only to potable water projects were not used. Potable water projects will continue to be ranked using the IWRP process already in place at the District. Potable water projects do not fall within the jurisdiction of the Watershed Managers and it was felt to be inappropriate to use the Plan ranking process to rank potable water projects. However, some of the IWRP criteria have relevance for ranking watershed projects were retained and those were incorporated into the ranking process and were assigned to one of the remaining categories of the main criteria.

- **Cost:** The cost to implement a project will be used during development of the implementation plan in Chapter 15. The District determined that the project cost does not impact the relative merits of a project.

- **Implementation:** The implementation issues identified in Chapter 8 and Chapter 10 will not be used as project ranking criteria. They will instead be used to develop strategies and plans for implementation of the projects in Chapter 15.

This step of the process resulted in three main criteria and fourteen subcriteria, which are summarized in Table 12-2.

12.1.3 Determine Metrics for Each Subcriteria

The third step in the ranking process is to determine the metrics for each subcriteria, or how each project will be measured to determine its conformance to the subcriteria. At this level of the planning study, the subcriteria metrics are typically more qualitative in nature, i.e. metrics such as “reduces/maintains/increases” are used rather than quantitative measurements such as the number of acres or construction cost. As projects become more defined during implementation, the metrics for each subcriteria typically become more quantitative, i.e. dollar volume of flood damage reduction, acres of habitat protected, etc. An advantage of the project ranking process is that the metrics used can evolve into more quantitative measurements as the level of detailed information developed about the projects increases. This will happen during the periodic Plan updates as more detailed information is developed for the projects.

The list of the three main criteria and the fourteen subcriteria with the metrics used for the Plan project ranking process are shown in Table 12-2.

TABLE 12-2: LIST OF MAIN CRITERIA, SUBCRITERIA AND METRICS

Label	Statement	Measurement
Criteria: Flood Protection/Channel Management		
FP-1	Reduce potential flood damages	Reduces/Maintains/Increases
FP-2	Protect areas of current and proposed development	Increases/Maintains/Decreases
FP-3	Rehabilitate previously constructed facilities in an environmentally conscious manner – a previously constructed facility does not provide adequate protection due to subsidence, erosion, flow rate change, etc.	Yes/No
FP-4	Manage sediment within stream channels to address capacity	Reduces/Maintains/Increases
FP-5	Encourage multipurpose uses for recreation, groundwater, recharge, etc.	Yes/No
Criteria: Environment/Habitat		
EH-1	Protect, preserve, and/or promote ecological health	Increases/Maintains/Decreases
EH-2	Provide adequate water quantity to sustain native fisheries and other aquatic life and the human community	Increases/Maintains/Decreases
EH-3	Restore and increase water quality by reducing point and non-point pollution (TMDLs)	Improves/No Impact/Reduces
EH-4	Improve and/or preserve riparian, aquatic, and other wildlife habitats through self-sustaining methods and allow for successful migrations of native and endangered species	Increases/Maintains/Decreases
EH-5	Protect, restore and/or preserve buffer areas	Increases/Maintains/Decreases
EH-6	Protect existing and/or create new wetlands for multiple uses	Increases/Maintains/Decreases
Criteria: Community Participation/Recreation		
CPR-1	Ensure public safety along creeks	Improves/No Impact/Reduces
CPR-2	Increase and/or improve appropriate recreational features along creeks	Increases/Maintains/Decreases

Label	Statement	Measurement
CPR-3	Provide and promote general public outreach, involvement, and education	Yes/No

12.1.4 Identify Candidate Projects

Chapters 7 through 11 identified candidate projects, guidelines and O & M activities as a result of the difference between the current watershed conditions and the Plan vision, goals and objectives. Some of the projects identified in these chapters were not further included as candidate Plan projects for the following reasons:

- Water supply projects that pertain only to potable water supply and do not directly impact stream/riparian corridor activities were not included in the Plan project ranking process. Water supply projects will continue to be ranked by the District IWRP process.
- Chapter 10 developed candidate guidelines. These guidelines will be evaluated for implementation within the implementation plans for specific projects, rather than evaluated in Chapter 12.

Figure 12-3 contains a map showing the known locations of ranked projects. After eliminating the projects described above, a total of 66 candidate projects and O&M activities remained. These are tracked using the project number originally assigned in previous chapters, and are listed in Table 12A-3 in the Attachments at the end of this chapter. This list of candidate projects does not imply that these are the only projects that could be implemented to meet the Plan goals and objectives. As the Plan is updated, additional projects or activities will be added to the list, and compared with those already identified to determine the best use of available funds. The list of candidate projects included in the project ranking model can be considered to be non-critical, or projects that are not necessarily required to be implemented. It is assumed in this model that implementation of these projects is of the sole discretion of the Board of Directors, and will be selected or funded based on available funding and their relative merits.

12.1.5 Evaluate Each Project Against the Subcriteria Metrics

The next step in the project ranking process is to evaluate how each project scores against each of the subcriteria metrics. This was done based on the information known about each project, which is largely summarized in Chapters 9, 11 and Appendix C.

All of the projects were evaluated qualitatively based on the metrics identified in Section 12.1.3. Each of the projects was assigned a rating for each criteria based on its ability to meet that measurement. The decision modeling software then converts this qualitative ranking into a numerical value to determine a value for that measurement. For example, if a project can be rated as either reduces, maintains, or increases on their ability to reduce flood damage, reduces would convert to a score of 100 on a scale of 0-100, maintains would convert to 50 and increases would convert to 0. Metrics with a Yes/No measurement system with a “Yes” rating convert to a score of 100 and a no rating convert to 0. These values were arbitrarily determined by the project team, and are intended be a numerical representation of the qualitative rating. As mentioned in Section 12.1.3, the metrics used to evaluate the project tend to become more quantitative in nature as detailed information about the projects is developed. An excerpt of the project evaluation process appears below as Table 12-3. The full results appear as Table 12A-4 in the Attachments at the end of this chapter.

TABLE 12-3: EXCERPT FROM PROJECT EVALUATION AGAINST SUBCRITERIA METRICS

Project #	**Flood Protection**					**Environment/ Habitat**						**Community Participation/ Recreation**		
	FP-1	FP-2	FP-3	FP-4	FP-5	EH-1	EH-2	EH-3	EH-4	EH-5	EH-6	CPR-1	CPR-2	CPR-3
	R/M/I	I/M/D	Y/N	R/M/I	Y/N	I/M/D	I/M/D	I/NI/R	I/M/D	I/M/D	I/M/D	I/NI/R	I/M/D	Y/N
FP1-A-01	R	I	N	R	N	M	M	NI	M	M	M	NI	M	N
FP1-A-02	M	M	N	M	N	M	M	NI	M	M	M	NI	M	Y
FP1-B-01	M	M	N	M	N	M	I	NI	M	M	M	NI	M	N

Rating Key:

R/M/I	Reduces/Maintains/Increases
Y/N	Yes/No
I/M/D	Increases/Maintains/Decreases
I/NI/R	Improves/No Impact/Reduces

12.1.6 Determine Weight for Each Subcriteria Relative to Main Criteria

There are two types of relative weighting used in the project ranking process. The first, described in this section, is the relative weight of each subcriteria against the other subcriteria in its category. To determine the relative weighting of the subcriteria, each main criteria is arbitrarily given 100 points to divide among the category's subcriteria. For example, within the Flood Protection criteria, each of the five subcriteria are weighted with regard to their relative importance in fulfilling the main criteria of flood protection. Table 12-4 and Table 12A-5 in the Attachments illustrate the relative weights used for the subcriteria in this project ranking process.

TABLE 12-4: RELATIVE WEIGHTS USED FOR SUBCRITERIA RELATIVE TO EACH OTHER

Sub Criteria	Statement	Relative Weight w/in Criteria
Criteria: Flood Protection/Channel Management		
FP-1	Reduce potential flood damages	50
FP-2	Protect areas of current and proposed development	15
FP-3	Rehabilitate previously constructed facilities in an environmentally conscious manner if a previously constructed facility does not provide adequate protection due to subsidence, erosion, flow rate change, etc.	15
FP-4	Manage sediment within stream channels to address capacity	10
FP-5	Encourage multipurpose uses for recreation, groundwater, recharge, etc.	10
Criteria: Environment/Habitat		
EH-1	Protect, preserve, and/or promote ecological health	25
EH-2	Provide adequate water quantity to sustain native fisheries and other aquatic life and the human community	15
EH-3	Restore and increase water quality by reducing point and non-point pollution (TMDLs)	15
EH-4	Improve and/or preserve riparian, aquatic, and other wildlife habitats through self-sustaining methods and allow for successful migrations of native and endangered species	15
EH-5	Protect, restore and/or preserve buffer areas	15
EH-6	Protect existing and/or create new wetlands for multiple uses	15
Criteria: Community Participation/Recreation		
CPR-1	Ensure public safety along creeks	33 1/3
CPR-2	Increase and/or improve appropriate recreational features along creeks	33 1/3
CPR-3	Provide and promote general public outreach, involvement, and education	33 1/3

12.1.7 Rank Projects From Various Perspectives

The second type of relative weighting used in the project ranking process is that of the main criteria against each other, i.e. flood protection versus environment/habitat versus community participation/recreation. The project ranking software will then calculate the ranking of each project based on its evaluation against the subcriteria metrics, the relative weight of each subcriteria related to its main criteria, and the relative weight of the three main criteria to each other. Since the main criteria and the subcriteria have been developed to reflect the goals and objectives of the Plan; therefore, the resulting project ranking will indicate which projects best fulfill these goals and objectives.

An advantage of the CDP software as a project ranking tool is that it allows the projects to be ranked from several perspectives. The "right" weighting of main criteria may vary depending on the group doing the ranking, available funding for certain types of projects, or on over-riding political or institutional needs.

For this document, the project ranking process was done from four perspectives. The first three scenarios each favors either the flood protection, environment/habitat, or community participation/recreation criteria. The fourth scenario weights each of the three main criteria equally to represent a balanced emphasis. The use of these various lists by the Watershed Manager could be required if funding for a specific type of project is available, and the Manager needs to determine the project best meeting that criteria.

Table 12-5 shows the relative weighting of main criteria used in each of the four scenarios.

TABLE 12-5: RELATIVE WEIGHTING OF MAIN CRITERIA USED IN EACH OF THE FOUR SCENARIOS

Criteria	**Relative Weights of Main Criteria Out of a Possible 100 Points**			
	Perspective #1	**Perspective #2**	**Perspective #3**	**Perspective #4**
	Emphasize Flood Protection	**Emphasize Environment/ Habitat**	**Emphasize Community Participation/ Recreation**	**Balanced Emphasis**
Flood Protection	80	10	10	33
Environment/ Habitat	10	80	10	33
Community Participation /Recreation	10	10	80	33

12.2 Results of the Project Ranking Process

Section 12.1 described the seven steps associated with the project ranking process. This section presents the results of that process.

The order in which projects are ranked depends on the relative weights assigned to each of the main and subcriteria. For this report, the projects have been ranked from the four perspectives identified in Table 12-5. In reviewing the results, it is important to understand the way in which the project ranking process can be used by the Watershed Managers and other District staff. Since the ranking depends on the relative weight given to each of the criteria, it is unlikely that a single "right" project ranking list will be developed. Rather, the project ranking model can be used to rank the projects *in response to the question being asked*.

For example, if the Board were to request the Watershed Manager to implement an environment/habitat project, the ranking model could be run with an emphasis, i.e. high relative weights, towards the environment/habitat main criteria. The model would then favor projects rating high for the environment/habitat main criteria, and rank them in order of how they best meet the Plan goals. Another run of the model could emphasize the community participation/recreation main criteria and indicate the CPR project that best meets the Plan goals incorporated in the model.

The following sections show the top 10 ranked projects from each of the four perspectives used for this document:

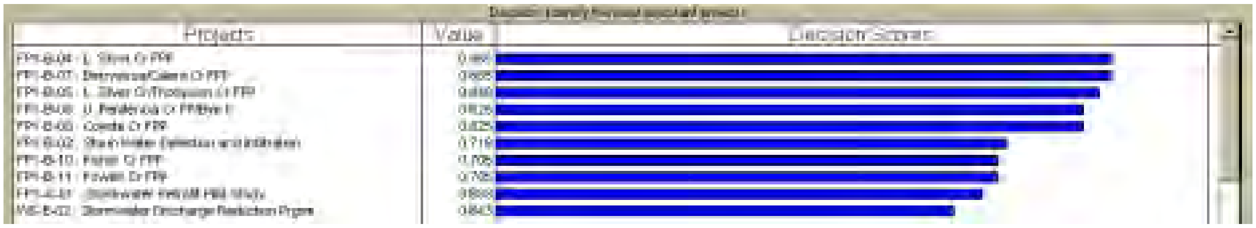
12.2.1 Flood Protection Emphasis

This section evaluates the projects with the following relative weights for the main criteria.

- Flood Protection/Channel Maintenance: 80%
- Environment/Habitat: 10%
- Community Participation/Recreation: 10%

Figure 12-3 summarizes the results of this weighting scenario.

FIGURE 12-3: RESULTS WITH FLOOD PROTECTION EMPHASIS



Since this model run emphasized flood protection, all of the top rated projects were flood protection projects. The relative scoring of the projects within this ranking scenario was largely dependent on how well they measured against the flood protection subcriteria. Nine out of the top ten projects scored equally well for the first two flood protection subcriteria, i.e. reducing potential flood damages, and protecting areas of current and proposed development. Differentiation among the flood protection projects began with their scores for the third subcriteria, which measured rehabilitating previously constructed facilities in an environmentally conscious manner. The top five also met this subcriteria and therefore received higher overall scores than those that did not meet this subcriteria. Multi-objective projects that provided a wide variety of flood protection benefits tended to score highest. The top four flood protection projects are currently in the design or planning phase, and the fifth ranked project is planned for implementation through Clean, Safe Creeks and Natural Flood Protection Program funding.

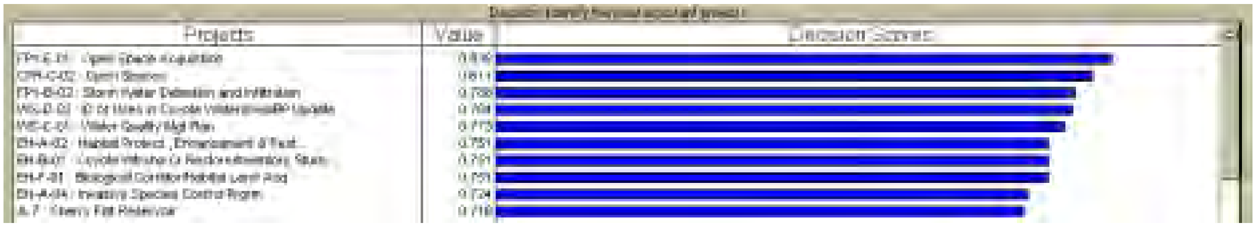
12.2.2 Environment / Habitat Emphasis

This section evaluates the projects with the following relative weights for the main criteria.

- Flood Protection/Channel Maintenance: 10%
- Environment/Habitat: 80%
- Community Participation/Recreation: 10%

Figure 12-4 summarizes the results of this weighting scenario.

FIGURE 12-4: ENVIRONMENT / HABITAT EMPHASIS



These projects emphasized protection and preservation of the environment and habitat using six subcriteria under the Environment/Habitat criteria. The first subcriteria, EH-1, emphasized protection, preservation, and/or promotion of ecological health and received 25 percent of the total possible Environment/Habitat score. The remaining five subcriteria were weighted evenly at 15 percent each of the total score. In looking at the top ten rated projects in this model run, all of them scored positively on two subcriteria, EH-1 - Protection, preservation, and/or promotion of ecological health and EH-4 - Improvement and preservation of habitats. Their final ranking within the top ten depended on the number of other subcriteria they fulfilled. The top rated project scored positively on five of the six Environment/Habitat subcriteria.

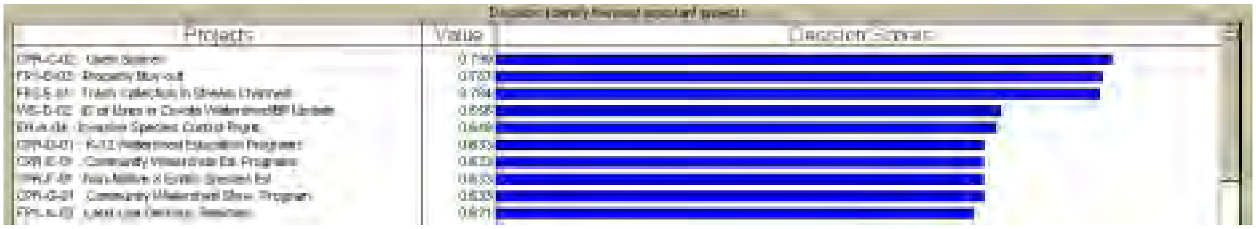
12.2.3 Community Participation / Recreation Emphasis

This section evaluates the projects with the following relative weights for the main criteria.

- Flood Protection/Channel Maintenance: 10%
- Environment/Habitat: 10%
- Community Participation/Recreation: 80%

Figure 12-5 summarizes the results of this weighting scenario.

FIGURE 12-5: RESULTS OF COMMUNITY PARTICIPATION / RECREATION EMPHASIS



These projects emphasized community participation/recreation using three subcriteria; ensuring public safety, increasing recreational features, and promoting general public outreach and involvement. The three subcriteria were weighted equally. Only the top ranked project scored positively against all three subcriteria, while the next two projects received positive scores on at least two of the subcriteria. The other top ten projects scored positively on only one of the community participation/recreation subcriteria. Projects making the CPR list were non-core District activities, such as trash collection, property buy-outs, or acquiring additional open space for recreation. These projects scored higher in the EH categories as a result of their tendency to preserve buffer areas or habitats.

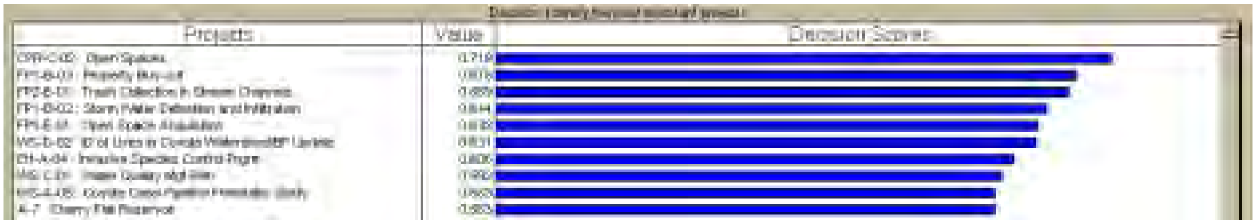
12.2.4 Equal Perspective

This section evaluates the projects with the following relative weights for the main criteria.

- Flood Protection/Channel Maintenance: 33 1/3%
- Environment/Habitat: 33 1/3%
- Community Participation/Recreation: 33 1/3%

Figure 12-6 summarizes the results of this weighting scenario.

FIGURE 12-6: RESULTS FROM A BALANCED PERSPECTIVE



In the balanced perspective, each of the three main criteria was given equal weight. The top rated projects tended to be those projects that scored positively on multiple goals, not necessarily those that were the best projects from any other perspective. For example, the top rated project in the balanced perspective was Master Planning for Open Spaces, Trails and Parks, which scored strongly in both Community Participation/Recreation and in Environment/Habitat categories. The second rated project, the Property Buy-Out Program, scored strongly in the Flood Protection and Community Participation/Recreation categories.

12.2.5 Discussion of Results

Another way to view the projects is to look at commonalities in the project rankings among the four perspectives. Table 12-6 shows the top 10 projects in each perspective. The highlighted projects are those that appear in the top 10 projects for at least two of the perspectives, meaning they also fulfill multiple goals.

TABLE 12-6: TOP 10 PROJECTS IN EACH PERSPECTIVE

Rank	Emphasis on Main Criteria of:			
	Flood Protection	**Environment / Habitat**	**Community Participation / Recreation**	**Equal Balance**
1	FP1-B-04*	FP1-E-01	CPR-C-02	CPR-C-02
2	FP1-B-07*	CPR-C-02	FP1-B-03	FP1-B-03
3	FP1-B-05	FP1-B-02	FP2-E-01	FP2-E-01
4	FP1-B-06*	WS-D-02	WS-D-02	FP1-B-02
5	FP1-B-08*	WS-C-01	EH-A-04	FP1-E-01
6	FP1-B-02	EH-B-01*	CPR-G-01*	WS-D-02
7	FP1-B-10*	EH-A-02*	CPR-F-01*	EH-A-04
8	FP1-B-11*	EH-F-01*	CPR-E-01*	WS-C-01
9	FP1-A-01	EH-A-04	CPR-D-01*	A-7*
10	WS-E-02*	A-7	FP1-A-02	WS-A-05*

* Indicates that the projects were ranked equally by CDP

Table 12-6 shows that none of the candidate projects ranked in the top 10 in all four ranking perspectives. Five projects ranked in the top 10 in three of the perspectives, while an additional four projects ranked in the top 10 in two of the perspectives. Nine of the ten projects that ranked in the top ten of more than one perspective were ranked in the top 10 for the balanced perspective.

Projects listed in more than one of these project ranking lists are shown in Table 12-7. Although the top 10 projects in the FP perspective are all traditional flood protection projects, the three FP1 flood protection projects in Table 12-7 are not traditional flood protection projects. None of the traditional flood protection projects rated in the top ten on any of the other non-flood protection focused perspectives.. This poor showing for traditional flood protection projects in the other perspectives is primarily a result of the perception that flood protection projects can negatively impact the environment by damaging habitat or wetlands. Mitigating for the negative impact of constructing flood protection projects or adding recreational or restorative features could improve the rating of flood protection projects from the other perspectives.

TABLE 12-7: LIST OF PROJECTS RANKED IN TOP 10 FROM MORE THAN ONE PERSPECTIVE

Project No.	Project Name	No. of Times Ranked in Top 10	FP	EH	CPR
FP1-B-02	Storm Water Detention and Infiltration Ponds	3	X	X	
FP1-B-03	Property Buy-Out Program	3	X		X
CPR-C-02	Open Spaces, Trails, and Parks Master Planning	3		X	X
WS-D-02	Identification of Beneficial Uses in Coyote Watershed/ Basin Plan Update	3		X	
EH-A-04	Invasive, Non-Native and Destructive Species Control Program	3		X	
FP1-E-01	Open Space Acquisition	2		X	
FP2-E-01	Trash Collection in Stream Channels	2			X
WS-C-01	Water Quality Management Plan	2		X	
A-7	Cherry Flat Reservoir	2		X	

Seven of the top ten projects in the EH list in Table 12-6 were also in the “balanced” perspective top ten list. This is largely a result of their fulfilling a multi-perspective goal by rating higher on either one or two of the FP or CPR subcriteria. The subcriteria that tended to differentiate these projects from others were; encouraging multipurpose uses (FP-5), increasing recreational features (CPR-2) or promoting outreach (CPR-3). Only the creation of stormwater detention and infiltration ponds made both the EH and FP emphasis top ten lists.

12.2.6 Sensitivity Analysis

A sensitivity analysis was conducted using the CDP software to determine if changes to the relative weighting strategies would have resulted in different rankings of the top-rated projects. Table 12-8 on the following page shows that significant changes to the relative weighting would be required for a different project to be rated number one for either of the four perspectives.

TABLE 12-8: SENSITIVITY ANALYSIS OF MAIN CRITERIA RELATIVE WEIGHTING

Criteria	Relative Weighting (FP:EH:CPR) For the Four Scenarios			
	80:10:10	10:80:10	10:10:80	33:33:33
	Change in Relative Weighting that would be Required to Change Project Rankings			
FP	20% Up	13.7% Up	25.9% Up	14.3% Up
EH	15.6% Up	11% Down	18.1% Up	11.9% Down
CPR	10% Down	6.7% Up	22.6% Down	11.8% Down

12.2.7 Summary

The recent passage of the Clean, Safe Creeks and Natural Flood Protection Program has resulted in a dedicated source of District funding for the construction of flood protection projects, habitat restoration and recreational features. The project ranking lists can be used as a tool for the Board to determine the projects that best meet the Ends Policies, given the District's limited resources. These project rankings are not intended to provide a single list of projects that are sequentially ranked in terms of their importance. People from different divisions, units, places or interests will have differing opinions on what criteria should be used, and how they should be weighted. Modifying either will result in different ranking results. The strategies presented in this chapter represent a ranking strategy that attempts to meet the Plan goals and objectives in a manner that considers the watershed as a whole, rather than any particular discipline or focus.

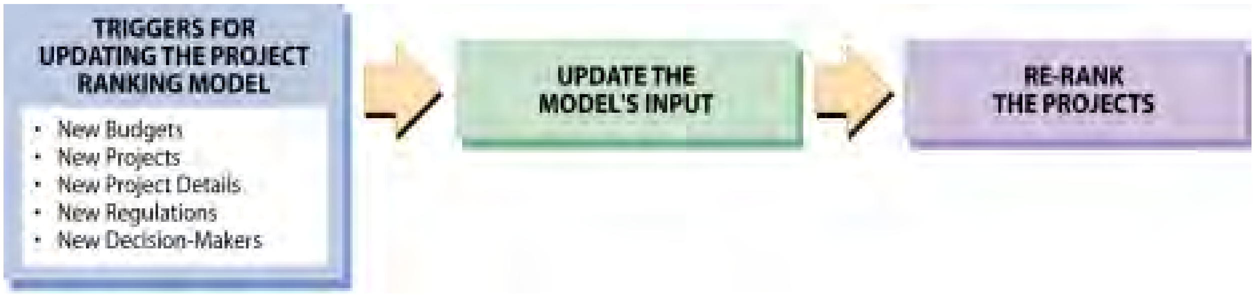
These project ranking lists should be used as a tool to assist in making decisions about what projects to fund, but should not be used to regulate project implementation. The project ranking model is a tool that can be used by the Watershed Managers in a variety of ways, such as:

- Indicate the top ranked project meeting a specific goal, i.e. Flood Protection, Environment/Habitat, Community Participation/Recreation;
- Select discretionary projects for implementation;
- Build consensus among multiple stakeholders with different goals and values and allow decisions to be made in real-time in workshop settings;
- Rank the projects from multiple perspectives; and
- Thoroughly document the project-ranking process.

12.3 Next Steps

The project rankings included in this report reflect the current situation, positions, and project knowledge within the Plan. Conditions within the Coyote Watershed will not remain static and the project ranking process is designed to be a dynamic model. As shown in Figure 12-7, the project ranking process should be updated biannually to reflect changes in the level of information known about the projects, changes in available funding priorities, new regulatory or political requirements for watershed projects, etc. Biannual updates will allow this type of prioritization to be used in conjunction with the District's budgeting process.

FIGURE 12-7: THE PROJECT RANKING MODEL SHOULD BE REGULARLY UPDATED



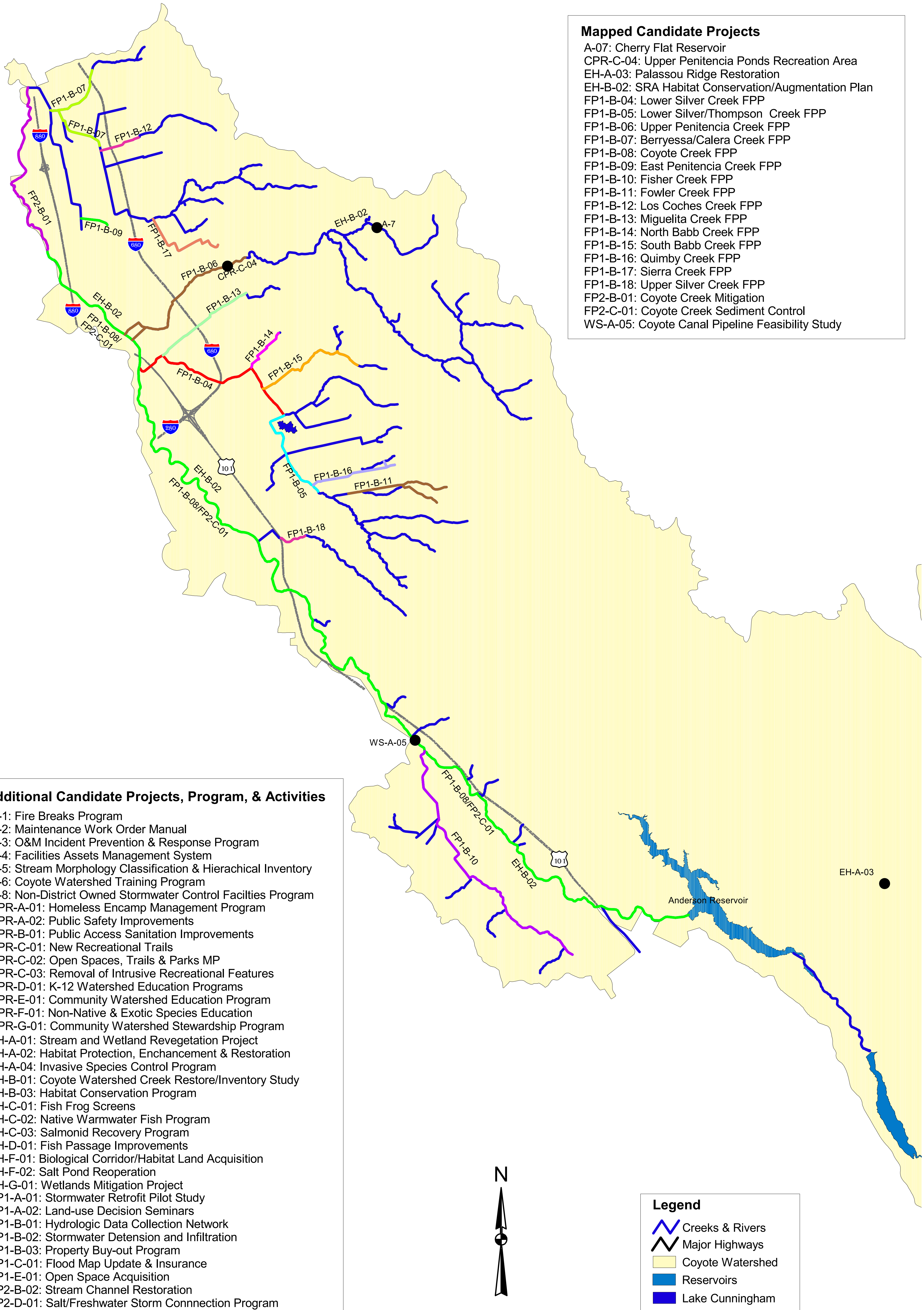
Chapter 13 will summarize the District's funding plan for the Plan, Chapter 14 will identify strategies for implementation of the Plan and Chapter 15 will define the Plan's Implementation Plan.

There are a number of Attachments to Chapter 12:

- Documentation of the 7-Step Project Ranking Process
- Documentation of the Project Ranking Results

Attachments

Figure 12-2: Location of Candidate Projects, Programs, & Activities



Mapped Candidate Projects

A-07: Cherry Flat Reservoir
CPR-C-04: Upper Penitencia Ponds Recreation Area
EH-A-03: Palassou Ridge Restoration
EH-B-02: SRA Habitat Conservation/Augmentation Plan
FP1-B-04: Lower Silver Creek FPP
FP1-B-05: Lower Silver/Thompson Creek FPP
FP1-B-06: Upper Penitencia Creek FPP
FP1-B-07: Berryessa/Calera Creek FPP
FP1-B-08: Coyote Creek FPP
FP1-B-09: East Penitencia Creek FPP
FP1-B-10: Fisher Creek FPP
FP1-B-11: Fowler Creek FPP
FP1-B-12: Los Coches Creek FPP
FP1-B-13: Miguelita Creek FPP
FP1-B-14: North Babb Creek FPP
FP1-B-15: South Babb Creek FPP
FP1-B-16: Quimby Creek FPP
FP1-B-17: Sierra Creek FPP
FP1-B-18: Upper Silver Creek FPP
FP2-B-01: Coyote Creek Mitigation
FP2-C-01: Coyote Creek Sediment Control
WS-A-05: Coyote Canal Pipeline Feasibility Study

Additional Candidate Projects, Program, & Activities

A-1: Fire Breaks Program
A-2: Maintenance Work Order Manual
A-3: O&M Incident Prevention & Response Program
A-4: Facilities Assets Management System
A-5: Stream Morphology Classification & Hierachical Inventory
A-6: Coyote Watershed Training Program
A-8: Non-District Owned Stormwater Control Facilties Program
CPR-A-01: Homeless Encamp Management Program
CPR-A-02: Public Safety Improvements
CPR-B-01: Public Access Sanitation Improvements
CPR-C-01: New Recreational Trails
CPR-C-02: Open Spaces, Trails & Parks MP
CPR-C-03: Removal of Intrusive Recreational Features
CPR-D-01: K-12 Watershed Education Programs
CPR-E-01: Community Watershed Education Program
CPR-F-01: Non-Native & Exotic Species Education
CPR-G-01: Community Watershed Stewardship Program
EH-A-01: Stream and Wetland Revegetation Project
EH-A-02: Habitat Protection, Enchancement & Restoration
EH-A-04: Invasive Species Control Program
EH-B-01: Coyote Watershed Creek Restore/Inventory Study
EH-B-03: Habitat Conservation Program
EH-C-01: Fish Frog Screens
EH-C-02: Native Warmwater Fish Program
EH-C-03: Salmonid Recovery Program
EH-D-01: Fish Passage Improvements
EH-F-01: Biological Corridor/Habitat Land Acquisition
EH-F-02: Salt Pond Reoperation
EH-G-01: Wetlands Mitigation Project
FP1-A-01: Stormwater Retrofit Pilot Study
FP1-A-02: Land-use Decision Seminars
FP1-B-01: Hydrologic Data Collection Network
FP1-B-02: Stormwater Detension and Infiltration
FP1-B-03: Property Buy-out Program
FP1-C-01: Flood Map Update & Insurance
FP1-E-01: Open Space Acquisition
FP2-B-02: Stream Channel Restoration
FP2-D-01: Salt/Freshwater Storm Connnection Program
FP2-E-01: Trash Collection in Stram Channels
WS-C-01: Water Quality Management Plan
WS-C-02: Instream Goundwater Recharge
WS-D-02: ID of Beneficial Uses in Coyote Watershed/BP Update
WS-E-02: Stormwater Discharge Recuction Program
WS-F-01: TMDL/Diazinon Management Program

Legend

Creeks & Rivers
Major Highways
🟨 Coyote Watershed
🟦 Reservoirs
🟦 Lake Cunningham

Table 12A-1: Identify Candidate Criteria. These 61 candidate criteria are compiled from the goals and objectives developed in Chapter 8 supplemented by criteria the District uses in the Integrated Water Resources Plan (IWRP) and Waterways Management Model (WWMM).

Number	Source	Goal (1)	Objective
1	Ch. 8	ws	Provide a reliable supply of healthy, clean drinking water
2	Ch. 8	ws	Reduce/manage total potable water demand
3	Ch. 8	ws	Protect surface water/groundwater supplies to meet or exceed all applicable water quality regulatory standards in a cost-effective manner
4	Ch. 8	eh	Provide adequate water quality and quantity to sustain native fisheries and other aquatic life and the human community
5	Ch. 8	eh	Reduce direct and non-point sources of pollutants in streams
6	Ch. 8	eh	Restore impaired water bodies (TMDLs)
7	Ch. 8	fp	Minimize expansion of the 1% floodplain
8	Ch. 8	fp	Reduce potential for flood damages
9	Ch. 8	cost	Reduce flood insurance costs to homeowners and other property owners
10	Ch. 8	fp	Maintain existing flood protection facilities in an environmentally sensitive manner
11	Ch. 8	fp	Protect, enhance and preserve natural flood plains
12	Ch. 8	fp	Balance the needs of humans and the environment
13	Ch. 8	fp	Maintain natural stream functions
14	Ch. 8	fp	Manage sediment within stream channels to address capacity
15	Ch. 8	fp	Restore or redirect streamflows for in-stream beneficial uses
16	Ch. 8	eh	Restore and increase riparian, aquatic and other wildlife habitats
17	Ch. 8	eh	Preserve and enhance natural, self-sustaining habitats wherever possible
18	Ch. 8	eh	Balance preservation of native warmwater fisheries with restoration of endangered/coldwater fisheries
19	Ch. 8	eh	Provide barrier-free physical passage for migratory aquatic and wildlife species
20	Ch. 8	eh	Preserve and increase buffer in upland, undeveloped areas
21	Ch. 8	eh	Protect, restore & increase buffer for lowland areas
22	Ch. 8	eh	Protect existing and create new wetlands for multiple uses
23	Ch. 8	cpr	Ensure public safety along creeks
24	Ch. 8	cpr	Meet community aesthetic standards
25	Ch. 8	cpr	Increase and/or improve appropriate recreational features along creeks
26	Ch. 8	cpr	Foster among students a knowledge, respect and sense of stewardship for living streams
27	Ch. 8	cpr	Provide educational opportunities and interpretive resources for the general public
28	Ch. 8	cpr	Provide outreach to community organizations and general public
29	Ch. 8	cpr	Increase partnership and support of groups (environmental, community, etc.) to preserve and restore aquatic, riparian and other habitat
30	IWRP	ws	Provide equal reliability of water throughout the county
31	IWRP	ws	Maximize system flexibility
32	IWRP	ws	Maximize effective use of water supply
33	IWRP	ws/fp	Maximize multipurpose potential for integrating district functions
34	IWRP	ws	Meet level of service
35	IWRP	ws	Maximize ability to respond to changing conditions
36	IWRP	cpr	Include public involvement and maximize public acceptance
37	IWRP	cpr	Maximize opportunities for recreation and environmental uses
38	IWRP	ws	Maximize the quality and treatability of source water
39	IWRP	ws/cpr	Promote efficient water use
40	IWRP	eh	Avoid or minimize adverse impacts to habitat or ecosystems
41	WWMM	fp/eh/c	Reduce flood damages -- $ value of average annual flood damages
42	WWMM	fp	Protect developed areas -- total acres of developed land subject to flooding
43	WWMM	fp	Construct reaches between previously improved reaches -- is inadequate reach between completed reaches? Yes/No
44	WWMM	fp	Rehabilitate previously constructed facilities -- a previously constructed facility does not provide adequate protection due to subsidence, erosion, flow rate change, etc. Yes/No
45	WWMM	fp	Protect areas of proposed development -- total acres of vacant land subject to flooding which is proposed to tbe developed in future according to city plans (Urban Service Area)
46	WWMM	fp/eh	Protect downstream reaches -- miles of inadequate channel downstream of reach
47	WWMM	cost	Reduce maintenance costs -- cost of maintaining existing channel per mile of reach
48	WWMM	fp/eh/cpr	Encourage multipurpose uses -- acres of land or miles of creek which are used or will be used jointly for recreation, groundwater, recharge, etc.
49	WWMM	cost	Reduce flood insurance costs -- estimated annual cost of required flood insurance
50	WWMM	cpr/fp/eh	Protect historically flood areas -- number of years flooded or area of historic flooding
51	Ch. 8	im	Apply an integrated, adaptive management approach
52	Ch. 8	im	Foster coordination of District activities/projects with other agencies

Table 12A-1: Identify Candidate Criteria. These 61 candidate criteria are compiled from the goals and objectives developed in Chapter 8 supplemented by criteria the District uses in the Integrated Water Resources Plan (IWRP) and Waterways Management Model (WWMM).

Number	Source	Goal [1]	Objective
53	Ch. 8	im	Support authority of appropriate groups to implement plans and actions
54	Ch. 8	im	Use existing institutional capacity to improve planning, regulatory and development programs
55	Ch. 8	im	Implement multi-objective planning process at SCVWD
56	Ch. 8	im	Optimize use of public and private resources to accomplish SSP goals
57	Ch. 8	im	Simplify compliance with regulatory requirements without compromising environmental protection
58	IWRP	ws	Minimize risk of providing supplies
59	IWRP	cost	Minimize District costs
60	IWRP	cost	Minimize rate impacts
61	IWRP	cost	Protect the economic well-being of the County by minimizing costs to the community

[1] Legend:
cost - cost related
cpr - community participation/re
eh - environment/habitat
fp - flood protection
im - implementation issue
ws - water supply

Table 12A-2a. Organize and Group into Main Criteria and Subcriteria. The 61 candidate criteria were grouped into similar categories.

Water Supply			
1	Ch. 8	ws	Provide a reliable supply of healthy, clean drinking water
2	Ch. 8	ws	Reduce/manage total potable water demand
3	Ch. 8	ws	Protect surface water/groundwater supplies to meet or exceed all applicable water quality regulatory standards in a cost-effective manner
30	IWRP	ws	Provide equal reliability of water throughout the county
31	IWRP	ws	Maximize system flexibility
32	IWRP	ws	Maximize effective use of water supply
33	IWRP	ws/fp	Maximize multipurpose potential for integrating district functions
34	IWRP	ws	Meet level of service
35	IWRP	ws	Maximize ability to respond to changing conditions
38	IWRP	ws	Maximize the quality and treatability of source water
39	IWRP	ws/cpr	Promote efficient water use
58	IWRP	ws	Minimize risk of providing supplies
Flood Protection/Channel Management			
7	Ch. 8	fp	Minimize expansion of the 1% floodplain
8	Ch. 8	fp	Reduce potential for flood damages
10	Ch. 8	fp	Maintain existing flood protection facilities in an environmentally sensitive manner
11	Ch. 8	fp	Protect, enhance and preserve natural flood plains
12	Ch. 8	fp	Balance the needs of humans and the environment
13	Ch. 8	fp	Maintain natural stream functions
14	Ch. 8	fp	Manage sediment within stream channels to address capacity
15	Ch. 8	fp	Restore or redirect streamflows for in-stream beneficial uses
41	WWMM	fp/eh/c	Reduce flood damages -- $ value of average annual flood damages
42	WWMM	fp	Protect developed areas -- total acres of developed land subject to flooding
43	WWMM	fp	Construct reaches between previously improved reaches -- is inadequate reach between completed reaches? Yes/No
44	WWMM	fp	Rehabilitate previously constructed facilities -- a previously constructed facility does not provide adequate protection due to subsidence, erosion, flow rate change, etc. Yes/No
45	WWMM	fp	Protect areas of proposed development -- total acres of vacant land subject to flooding which is proposed to tbe developed in future according to city plans (Urban Service Area)
46	WWMM	fp/eh	Protect downstream reaches -- miles of inadequate channel downstream of reach
48	WWMM	fp/eh/cpr	Encourage multipurpose uses -- acres of land or miles of creek which are used or will be used jointly for recreation, groundwater, recharge, etc.
50	WWMM	cpr/fp/eh	Protect historically flood areas -- number of years flooded or area of historic flooding

Environment/Habitat			
4	Ch. 8	eh	Provide adequate water quality and quantity to sustain native fisheries and other aquatic life and the human community
5	Ch. 8	eh	Reduce direct and non-point sources of pollutants in streams
6	Ch. 8	eh	Restore impaired water bodies (TMDLs)
16	Ch. 8	eh	Restore and increase riparian, aquatic and other wildlife habitats
17	Ch. 8	eh	Preserve and enhance natural, self-sustaining habitats wherever possible
18	Ch. 8	eh	Balance the preservation of native warmwater fisheries with the restoration of endangered/coldwater fisheries
19	Ch. 8	eh	Provide barrier-free physical passage for migratory aquatic and wildlife species
20	Ch. 8	eh	Preserve and increase buffer in upland, undeveloped areas
21	Ch. 8	eh	Protect, restore & increase buffer for lowland areas
22	Ch. 8	eh	Protect existing and create new wetlands for multiple uses
40	IWRP	eh	Avoid or minimize adverse impacts to habitat or ecosystems

Community Participation/Recreation			
23	Ch. 8	cpr	Ensure public safety along creeks
24	Ch. 8	cpr	Meet community aesthetic standards
25	Ch. 8	cpr	Increase and/or improve appropriate recreational features along creeks
26	Ch. 8	cpr	Foster among students a knowledge, respect and sense of stewardship for living streams
27	Ch. 8	cpr	Provide educational opportunities and interpretive resources for the general public
28	Ch. 8	cpr	Provide outreach to community organizations and general public
29	Ch. 8	cpr	Increase partnership and support of groups (environmental, community, etc.) to preserve and restore aquatic, riparian and other habitat
36	IWRP	cpr	Include public involvement and maximize public acceptance
37	IWRP	cpr	Maximize opportunities for recreation and environmental uses

Cost			
9	Ch. 8	cost	Reduce flood insurance costs to homeowners and other property owners
47	WWMM	cost	Reduce maintenance costs -- cost of maintaining existing channel per mile of reach
49	WWMM	cost	Reduce flood insurance costs -- estimated annual cost of required flood insurance
59	IWRP	cost	Minimize District costs
60	IWRP	cost	Minimize rate impacts
61	IWRP	cost	Protect the economic well-being of the County by minimizing costs to the community

Implementation

Table 12A-2a. Organize and Group into Main Criteria and Subcriteria. The 61 candidate criteria were grouped into similar categories.

51	Ch. 8	im	Apply an integrated, adaptive management approach
52	Ch. 8	im	Foster coordination of District activities/projects with other agencies
53	Ch. 8	im	Support authority of appropriate groups to implement plans and actions
54	Ch. 8	im	Use existing institutional capacity to improve planning, regulatory and development programs
55	Ch. 8	im	Implement multi-objective planning process at SCVWD
56	Ch. 8	im	Optimize use of public and private resources to accomplish SSP goals
57	Ch. 8	im	Simplify compliance with regulatory requirements without compromising environmental protection

Table 12-2b. Merge Sub-criteria to Avoid Duplication. The criteria need to be unique from one another to be useful as an evaluation/ranking tool. This sheet shows how the criteria that were similar were merged into a final set of ranking criteria.

Flood Protection/Channel Management

New Name	Old Name(s)	Source(s)	Reason for Merge
FP-1	8, 41, 42, 43,46, 50	Ch. 8, WWMM	Reducing potential flood damages will inherently reduce actual damages
FP-2	7, 45	Ch. 8, WWMM	Expansion of the floodplain endangers both current and future development sites
FP-3	10, 44	Ch. 8, WWMM	Rehabilitation plans should account for environmental conditions and quality
FP-4	14	Ch. 8	Not merged
FP-5	48	WWMM	Not merged

Environment/Habitat

New Name	Old Name(s)	Source(s)	Reason for Merge
EH-1	11, 12, 13, 40	Ch. 8, IWRP	Stream functions, flood plains, and the needs of humans and the environment are intertwined
EH-2	4, 15	Ch. 8	Restoring or redirecting streamflows will augment water supply
EH-3	5, 6	Ch. 8	Improving water quality involves preventing future degradation and correcting previous damage
EH-4	16, 17, 18, 19, 48	Ch. 8, WWMM	Preservation and promotion of habitats must be self-sustaining, allow for natural wildlife patterns, and be as inclusive as possible
EH-5	20, 21	Ch. 8	Buffer lands are important both upstream and downstream of proposed projects
EH-6	22	Ch. 8	Not merged

Community Participation/Recreation

New Name	Old Name(s)	Source(s)	Reason for Merge
CPR-1	23, 37	Ch. 8, IWRP	Same goal
CPR-2	25	Ch. 8	Not merged
CPR-3	24, 26, 27, 28, 29, 36	Ch. 8, IWRP	Community involvement and education will promote acceptance and assist in the sustainability of the programs and projects

Note: Some of the categories of candidate criteria were eliminated from use as criteria for ranking the SSP projects. The categories that were eliminated were:

1. Water supply: Criteria that pertained only to potable water projects were not used. Potable water projects will continue to be ranked using the IWRP process. The IWRP criteria that did have relevance for ranking watershed projects were retained and incorporated in the categories above.

2. Cost: The cost to implement a project will not be used as project ranking criteria. Implementation cost will be used during development of implementation plans.

3. Implementation: The implementation issues identified in Chapter 8 and Chapter 10 will not be used as project ranking criteria. They will instead be used to develop strategies and plans for implementation of the projects.

Table 12A-3. Identify Candidate Projects. These are the projects identified in Chapters 7, 9 and 11.

Project #	Name	Description
Water Supply Projects		
WS-A-05	Coyote Canal Pipeline Feasibility Study	Determine the feasibility of installing a 7.8 mile pipeline/unlined channel to bypass flows around the Coyote Valley to control groundwater elevations on Coyote Creek between Anderson Dam and Metcalf Rd.
WS-C-01	Water Quality Management Plan	Implement management plan to ensure water quality objectives are attained.
WS-C-02	Instream Groundwater Recharge	Provide instream groundwater recharge. This project would expand the ability of the District to recharge the groundwater basin in the east zone. If it is determined that additional recharge is required, project would identify ways and locations most suitable for percolation and/or injection.
WS-D-02	Identification of Beneficial Uses in Coyote Watershed/Basin Plan Update	Coordinate with RWQCB, WMI and SCVURPPP on update of basin plan table for beneficial use designations for Coyote Watershed. These areas include: Major Creeks within the Santa Clara Basin; Groundwater supplies in Santa Clara and Coyote Valley; Major contiguous wetlands, where practical; Other wetland sites, as needed.
WS-E-02	Stormwater Discharge Reduction Program	Develop feasibility study to identify solutions to reduce rate and quantity of stormwater pollutant discharges.
WS-F-01	TMDL/Diazinon Management Program	Work with regulators to coordinate TMDL implementation schedule. Develop management plan and monitoring program to identify sources of Diazinon in the Coyote Watershed.
Flood Protection Projects		
FP1-A-01	Stormwater Retrofit Pilot Study	Identify cost-effective areas to pilot-test construction of stormwater retrofit opportunities to attenuate peak flows. These technologies could be incorporated into new development construction, or added onto existing buildings that are empty or underutilized if deemed appropriate.
FP1-A-02	Land-use Decision Seminars	Conduct seminars to educate planners on how land-use decisions can affect flooding and environmental quality. An example seminar could be the Land Use and Water Summit held on March 29, 2001
FP1-B-01	Hydrologic Data Collection Network	Install additional streamflow monitoring stations to add to the Hydrologic Data Collection Network to, in part, enhance emergency response and flood preparedness services.
FP1-B-02	Storm Water Detention and Infiltration Ponds	Determine the feasibility of creating and constructing new stormwater detention and infiltration ponds to minimize peak streamflows. These ponds could have an alternate benefit of capturing sediment.
FP1-B-03	Property Buy-Out Program	Investigate the feasibility of a long-term District property buy-out program. The property buy-out program allows the District to purchase property located in the 1% floodplain (typically this property has previously flooded, though it is not required).
FP1-B-04	Lower Silver Creek Flood Protection Project	Design and construct facilities to protect Lower Silver Creek from Coyote Creek to Lake Cunningham from 1% flood flows.
FP1-B-05	Lower Silver Creek/Thompson Creek Flood Protection Project	Design and construct facilities to protect Lower Silver Creek/Thompson Creek Flood Protection Project between Lake Cunningham and Thompson Creek terminus from 1% flood flows.
FP1-B-06	Upper Penitencia Creek Flood Protection/Bypass Project	Design and construct facilities to protect Upper Penitencia Creek between Coyote Creek and Dorel Drive from 1% flood flows.
FP1-B-07	Berryessa/Calera Creek Flood Protection Project	Design and construct facilities to protect Berryessa Creek between Lower Penitencia Creek and Calaveras Blvd. and on Calera Creek from 1% flood fows.
FP1-B-08	Coyote Creek Flood Protection Project	Design and construct facilities to protect Coyote Creek between Montague Expressway and Anderson Dam from 1% flow flows.
FP1-B-09	East Penitencia Creek Flood Protection Project	Design and construct facilities to protect East Penitencia Creek between Lower Penitencia Creek and the LOJ from 1% flood flows.
FP1-B-10	Fisher Creek Flood Protection Project	Design and construct facilities to protect Fisher Creek between Coyote Creek and LOJ from 1% flood flows.
FP1-B-11	Fowler Creek Flood Protection Project	Design and construct facilities to protect Fowler Creek between earth berm to LOJ from 1% flood flows.
FP1-B-12	Los Coches Creek Flood Protection Project	Design and construct facilities to protect Los Coches Creek between Berryessa Creek and Temple Drive from 1% flood flows.
FP1-B-13	Miguelita Creek Flood Protection Project	Design and construct facilities to protect Miguelita Creek between Lower Silver Creek and Toyon Road from 1% flood flows.
FP1-B-14	North Babb Creek Flood Protection Project	Design and construct facilities to protect North Babb Creek between Lower Silver Creek and Mahoney from 1% flood flows.
FP1-B-15	South Babb Creek Flood Protection Project	Design and construct facilities to protect South Babb Creek between Lower Silver Creek and u/s Clayton from 1% flood flows.
FP1-B-16	Quimby Creek Flood Protection Project	Design and construct facilities to protect Quimby Creek u/s Anderson to the LOJ from 1% flood flows.
FP1-B-17	Sierra Creek Flood Protection Project	Design and construct facilities to protect Sierra Creek between Berryessa Creek to the LOJ from 1% flood flows.
FP1-B-18	Upper Silver Creek Flood Protection Project	Design and construct facilities to protect Upper Silver Creek between Highway 101 and Silver Creek Road from 1% flood flows.
FP1-C-01	Flood Mapping Update and Insurance Liaison	Assist Federal Emergency Management Agency (FEMA) in their ongoing efforts to manage floodplains and identify flood hazards, through District liaison with the public, cities, and county relative to their participation in FEMA's National Flood Insurance Prorgram and the Community Rating System Program. Program also includes updating and publishing District flooding and facilities maps and establishing data links (GIS and FTP).
FP1-E-01	Open Space Acquisition	Identify critically significant lands to be preserved as open spaces and prioritize for purchase and/or easement.
FP2-B-01	Coyote Creek Mitigation	This project is to satisfy the permit condition of the 1984 Coyote Creek flood Control Project from the San Francisco bay to Montague Expressway. This project includes management and monitoring of mitigation measures for vegetation, groundwater, and surface water in reaches 1B, 2 and 3 of Coyote Creek.
FP2-B-02	Stream Channel Feature Restoration	This project would identify, prioritize, and construct restoration features at appropriate locations within the Coyote Watershed for stream restoration. The location and type of channel features that are to be replaced have not been identified, but there are a number of types of channel feature restoration projects that can be considered for implementation, such as removing problem culverts, daylighting streams, etc.
FP2-C-01	Coyote Creek Sediment Control	This project will identify major sources of sediment, create new development control measures and propose solutions for existing locations where sediment transport is an issue.

Table 12A-3. Identify Candidate Projects. These are the projects identified in Chapters 7, 9 and 11.

Project #	Name	Description
FP2-D-01	Saltwater/Freshwater Stream Connection Program	Identify potential freshwater streams to connect within Baylands area during high-flow years to promote species diversity and genetic exchange.
FP2-E-01	Trash Collection in Stream Channels	Increase removal of trash from channel areas in coordination with local jurisdictions, District staff and the general public. This maintenance can include participation in creek cleanup days, ongoing trash removal from bins, and cleanup of illegally dumps.
Environment/Habitat Projects		
EH-A-01	Stream and Wetland Revegetation Project	Revegetate riparian, wetland, and sensitive habitat areas, clean up trash, and create wetland areas at appropriate sites on Coyote Creek from Anderson Dam to the Bay. Sites preliminarily identified include percolation pond land, Norwood Creek, Lake Cunningham, Flint Debris basin and elsewhere.
EH-A-02	Habitat Protection, Enhancement and Restoration Plan	Develop an implementation plan that identifies and enables construction for restoration and enhancement of 100 acres of tidal and/or riparian habitat (an equivalent of 6.6 acres of tidal or 7.2 acres of riparian habitat annually) that can be restored or constructed.
EH-A-03	Palassou Ridge Restoration	Cooperative Palassou Ridge project with SCCOSA to develop resource management plans and experimentally restore wetlands and species at risk on-site.
EH-A-04	Invasive, Non-Native and Destructive Species Control Program	Develop and implement a program that identifies, locates, controls and/or eradicates invasive, non-native, and destructive species in aquatic, riparian, and upland habitats.
EH-B-01	Coyote Watershed Creek Restoration and Inventory Study	Prepare an evaluation of restoration potential for all Coyote Watershed creeks (upland, aquatic and riparian resources), updating existing riparian and aquatic conditions and identify priority preservation areas.
EH-B-02	SRA Cover Habitat Conservation and Augmentation Program	Conduct SRA cover habitat conservation and augmentation program on Lower Berryessa Creek and Coyote Creek (entire length) and Upper Penitencia Creek above Alum Rock Park. This will help identify suitable mitigation measures for the planned future flood control projects along these creeks.
EH-B-03	Habitat Conservation Plan	Develop and implement a Habitat Conservation Plan to address District polices regarding Threatened and Endangered species.
EH-C-01	Fish and Frog Screens	Install fish and frog screens where needed and replace where appropriate. This project will identify what streams are suitable for which species, and identify locations where screens may be required.
EH-C-02	Native Warmwater Fisheries Program	Support native fish assemblage in Coyote Watershed and evaluate viability of population enhancement (such as effects of exotic game fish on native fish populations, etc.)
EH-C-03	Salmonid Recovery Program	Identify short-term/long-term salmonid recovery program, such as habitat restoration, water temperature maintenance, and removing migration obstructions in creek.
EH-D-01	Fish Passage Improvements	Identify reaches were potential fish habitat exists, and develop and implement an environmental strategy for fish passage improvements with prioritized projects.
EH-F-01	Biological Corridor/Habitat Area Land Acquisition	Acquire lands for biological corridors/riparian habitat areas. Identify undeveloped parcels within or adjacent to riparian corridor area for potential purchase or easement acquisition.
EH-F-02	Salt Pond Reoperation	Develop a “Pond A4 Tidal Wetlands ‘Mitigation Program’” for restoring the 321-acre site to a self-sustaining, full functioning tidal wetland ecosystem. These tasks will require restoration of salt ponds to some of the following uses: Waterfowl habitat; Shorebird habitt; Wetlands.
EH-G-01	Wetland Mitigation Project	Evaluate purchasing wetlands, in conjunction with others, to provide as mitigation measures for District projects.
Community Participation/Recreation Projects		
CPR-A-01	Homeless Encampment Minimization Program	To increase creek access public safety, work with local agencies to minimize homeless encampments in riparian areas.
CPR-A-02	Public Safety Improvements Within District Rights-of-Way	Improve safety at primary access areas by providing lighting, call boxes, and limiting access to potentially unsafe areas.
CPR-B-01	Public Access Sanitation Improvements	Identify creek public access areas that have or could have litter accumulation and install more trash containers.
CPR-C-01	New Recreational Trails Construction	Construct trails at identified locations, linking into Bay Trail, existing trails and provide interconnections with City of San Jose, City of Milpitas and County Trails.
CPR-C-02	Open Spaces, Trails, and Parks Master Planning	Develop an implementation plan for community partnerships that identify and provide access to 70 miles of open space and/or trails (an equivalent of 4.7 miles of open space and/or trails annually). Identify potential open space and trail opportunities, develop partnerships, complete a plan for developing the 70 miles over the next 15 years.
CPR-C-03	Removal of Intrusive Recreational Features	Identify and relocate intrusive trails, roadways, and equestrian activities outside habitat areas. Replace intrusive trail crossings with bridges.
CPR-C-04	Upper Penitencia Ponds Recreation Area	Provide picnic tables and benches at Upper Penitencia percolation ponds.
CPR-D-01	K-12 Watershed Education Programs	Develop programs for K-12 students working with local schools. Include programs such as NOAA’s GLOBE program or USFWS’s teacher’s packet on Endangered Species, using creek as an “outdoor classroom”.
CPR-E-01	Community Watershed Education Program	Develop and implement a comprehensive educational program for the community regarding the Coyote Watershed.
CPR-F-01	Non-Native and Exotic Species Education	Provide information/educate local nurseries, landscaping companies, and residents regarding non-native or exotic species and their effect on the watershed.
CPR-G-01	Community Watershed Stewardship Program	Foster and encourage public support and sense of ownership for Coyote Watershed by providing stewardship activities and educational programs, such as creek clean up events and Adopt-A-Creek.
District O&M Activities from Chapter 11		
A-1	Firebreaks Program	Extend the benefits of the current Firebreaks Programs to Coyote Watershed.
A-2	Maintenance Work Order Manual	Maintain a Maintenance Work Order Manual for the Coyote and Uvas/Llagas Watershed Management Unit
A-3	O&M Incident Prevention & Response Program	Maintain a current, continuously improving Incident Prevention and Response Program for the Coyote & Uvas/Llagas Watersheds
A-4	Facilities Assets Management System.	Create and maintain an asset management system for District facilities, particularly those operated by the Water Resources Management Division, the Water Utility Operation Division, and the Watershed Management Division.
A-5	Coyote Watershed Training Program	Establish and continuously improve a comprehensive Training Program for Coyote Watershed Staff
A-6	Stream Morphology Classification and Hierarchical Inventory	Establish a Stream Morphology Classification and Hierarchical Inventory for streams under District jurisdiction

Table 12A-3. Identify Candidate Projects. These are the projects identified in Chapters 7, 9 and 11.

Project #	Name	Description
A-7	Cherry Flat Reservoir	Establish proper management of Cherry Flat Reservoir to protect, restore, and enhance the riparian corridor downstream.
A-8	Non-District Owned Pollution Control Facilities Program	Establish a mechanism for mandating and enforcing long-term maintenance of privately owned flood management and storm water pollution prevention measures in Santa Clara County.

Table 12A-5. Evaluate Each Project Against Subcriteria Metrics. Each project has been rated against the subcriteria metrics and the results are shown
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Rating Key

R/M/I	Reduces/Maintains/Increases	Y/N	Yes/No
I/M/D	Increases/Maintains/Decreases	I/NI/R	Improves/No Impact/Reduces

	Flood Protection/Channel Management					Environment/Habitat						Community Participation/Recreation		
	FP-1	FP-2	FP-3	FP-4	FP-5	EH-1	EH-2	EH-3	EH-4	EH-5	EH-6	CPR-1	CPR-2	CPR-3
Project #	R/M/I	I/M/D	Y/N	R/M/I	Y/N	I/M/D	I/M/D	I/NI/R	I/M/D	I/M/D	I/M/D	I/NI/R	I/M/D	Y/N
WS-A-05	M	I	N	M	Y	I	I	NI	M	M	M	NI	I	N
WS-C-01	M	M	N	R	N	I	I	I	I	M	M	NI	I	N
WS-C-02	M	M	N	M	Y	D	M	NI	D	M	I	NI	M	Y
WS-D-02	M	M	N	M	N	I	M	I	I	M	I	NI	M	Y
WS-E-02	R	M	N	R	N	I	M	I	M	M	M	NI	M	N
WS-F-01	M	M	N	M	N	I	M	I	M	M	M	NI	M	N
FP1-A-01	R	I	N	R	N	M	M	NI	M	M	M	NI	M	N
FP1-A-02	M	M	N	M	N	M	M	NI	M	M	M	NI	M	Y
FP1-B-01	M	M	N	M	N	M	I	NI	M	M	M	NI	M	N
FP1-B-02	R	I	N	R	N	I	I	I	I	D	I	NI	M	N
FP1-B-03	R	M	N	M	N	M	M	NI	M	I	M	NI	I	Y
FP1-B-04	R	I	Y	R	Y	D	M	NI	D	D	D	NI	I	N
FP1-B-05	R	I	Y	R	Y	D	M	NI	D	D	D	NI	M	N
FP1-B-06	R	I	Y	M	Y	D	M	NI	D	D	D	NI	I	N
FP1-B-07	R	I	Y	R	Y	D	M	NI	D	D	D	NI	I	N
FP1-B-08	R	I	Y	M	Y	D	M	NI	D	D	D	NI	I	N
FP1-B-09	R	I	N	M	N	D	M	NI	D	D	D	NI	M	N
FP1-B-10	R	I	N	M	Y	D	M	NI	D	D	D	NI	I	N
FP1-B-11	R	I	N	M	Y	D	M	NI	D	D	D	NI	I	N
FP1-B-12	R	I	N	M	N	D	M	NI	D	D	D	NI	M	N
FP1-B-13	R	I	N	M	N	D	M	NI	D	D	D	NI	M	N
FP1-B-14	R	I	N	M	N	D	M	NI	D	D	D	NI	M	N
FP1-B-15	R	I	N	M	N	D	M	NI	D	D	D	NI	M	N
FP1-B-16	R	I	N	M	N	D	M	NI	D	D	D	NI	I	N
FP1-B-17	R	I	N	M	N	D	M	NI	D	D	D	NI	M	N
FP1-B-18	R	I	N	M	N	D	M	NI	D	D	D	NI	M	N
FP1-C-01	M	M	N	M	N	M	M	NI	M	M	M	NI	M	Y
FP1-E-01	M	M	N	M	Y	I	M	I	I	I	I	NI	I	N
FP2-B-01	M	M	N	M	N	I	M	NI	I	M	M	NI	M	N
FP2-B-02	M	M	N	M	Y	I	M	I	I	M	M	NI	M	N
FP2-C-01	I	M	N	R	N	I	M	I	M	M	M	NI	M	N
FP2-D-01	M	M	N	M	N	I	M	NI	I	M	M	NI	M	N
FP2-E-01	M	M	N	M	Y	I	M	I	M	M	M	I	M	Y
EH-A-01	M	M	N	M	Y	I	M	NI	I	M	I	NI	M	N
EH-A-02	M	M	N	M	N	I	M	NI	I	I	I	NI	M	N
EH-A-03	M	M	N	M	N	I	M	NI	I	I	M	NI	M	N
EH-A-04	M	M	N	M	N	I	I	NI	I	M	M	NI	M	Y
EH-B-01	M	M	N	M	N	I	M	NI	I	I	I	NI	M	N
EH-B-02	M	M	N	M	Y	I	M	NI	I	M	M	NI	M	N
EH-B-03	M	M	N	M	N	I	M	NI	I	M	M	NI	M	N
EH-C-01	M	M	N	M	N	M	M	NI	D	M	M	NI	M	N
EH-C-02	M	M	N	M	Y	I	M	NI	I	M	M	NI	M	N
EH-C-03	M	M	N	M	N	I	M	NI	I	M	M	NI	M	N
EH-D-01	M	M	N	M	N	I	M	NI	I	M	M	NI	M	N
EH-F-01	M	M	N	M	N	I	M	NI	I	I	I	NI	M	N
EH-F-02	M	M	N	M	N	I	M	NI	I	M	I	NI	M	N
EH-G-01	M	M	N	M	N	I	M	NI	I	M	I	NI	M	N
CPR-A-01	M	M	N	M	N	M	M	NI	M	M	M	I	I	Y
CPR-A-02	M	M	N	M	N	M	M	NI	M	M	M	I	M	N
CPR-B-01	M	M	N	M	N	I	M	I	M	M	M	NI	I	N
CPR-C-01	M	M	N	M	Y	M	M	NI	M	D	M	NI	I	N
CPR-C-02	M	M	N	M	Y	I	M	NI	I	I	I	NI	I	Y
CPR-C-03	M	M	N	M	Y	I	M	NI	I	M	M	NI	I	N
CPR-C-04	M	M	N	M	Y	M	M	NI	M	I	M	NI	I	N
CPR-D-01	M	M	N	M	N	I	M	NI	M	M	M	NI	M	Y
CPR-E-01	M	M	N	M	N	I	M	NI	M	M	M	NI	M	Y
CPR-F-01	M	M	N	M	N	I	M	NI	M	M	M	NI	M	Y
CPR-G-01	M	M	N	M	N	I	M	NI	M	M	M	NI	M	Y
A-1	M	M	N	M	N	M	M	NI	M	M	M	I	M	N
A-2	M	M	N	M	N	M	M	NI	M	M	M	NI	M	N
A-3	M	M	N	M	N	M	M	NI	M	M	M	I	M	N
A-4	M	M	N	M	N	M	M	NI	M	M	M	NI	M	N
A-5	M	M	N	M	N	M	M	NI	M	M	M	NI	M	N
A-6	M	M	N	M	N	I	M	NI	M	M	M	NI	M	N
A-7	M	M	N	M	Y	I	I	NI	I	M	M	NI	I	N
A-8	M	M	N	M	N	M	M	I	M	M	M	NI	M	N

Table 12A-5. Evaluate Each Project Against Subcriteria Metrics.

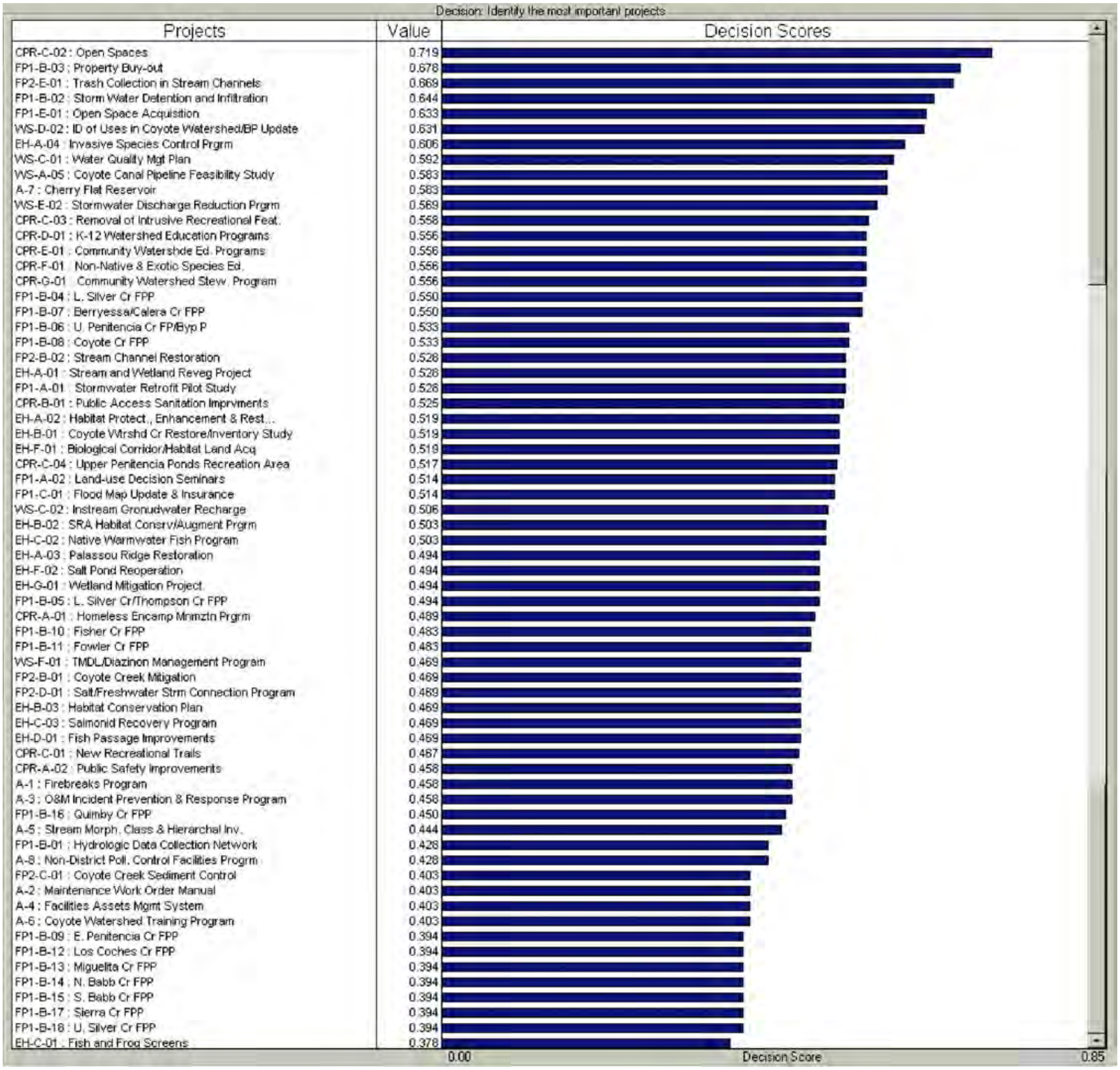
Sub Criteria	Statement	Draft Relative weight w/in Criteria
Criteria: Flood Protection/Channel Management		
FP-1	Reduce potential flood damages	50
FP-2	Protect areas of current and proposed development	15
FP-3	Rehabilitate previously constructed facilities in an environmentally conscious manner -- a previously constructed facility does not provide adequate protection due to subsidence, erosion, flow rate change, etc.	15
FP-4	Manage sediment within stream channels to address capacity	10
FP-5	Encourage multipurpose uses for recreation, groundwater, recharge, etc.	10
Criteria: Environment/Habitat		
EH-1	Protect, preserve, and/or promote ecological health	25
EH-2	Provide adequate water quantity to sustain native fisheries and other aquatic life and the human community	15
EH-3	Restore and increase water quality by reducing point and non-point pollution (TMDLs)	15
EH-4	Improve and/or preserve riparian, aquatic, and other wildlife habitats through self-sustaining methods and allow for successful migrations of native and endangered species	15
EH-5	Protect, restore and/or preserve buffer areas	15
EH-6	Protect existing and/or create new wetlands for multiple uses	15
Criteria: Community Participation/Recreation		
CPR-1	Ensure public safety along creeks	33
CPR-2	Increase and/or improve appropriate recreational features along creeks	33
CPR-3	Provide and promote general public outreach, involvement, and education	33

Out of a total of 100 points within Flood Protection

Out of a total of 100 points within Environment/Habitat

Out of a total of 100 points within Community Participation/Recreation

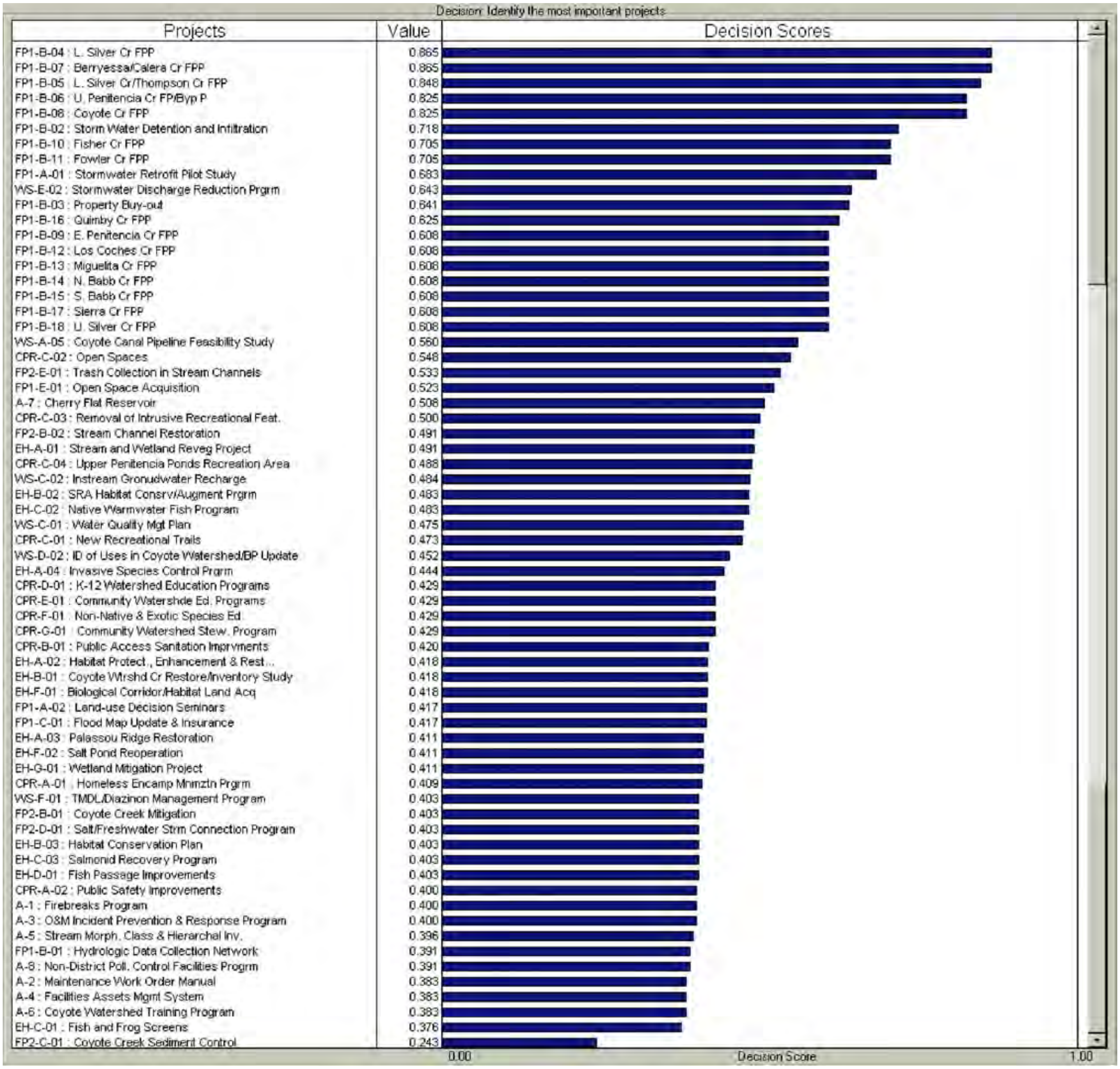
Figure 12A-1: Balanced Perspective Ranking Results



Decision: Identify the most important projects

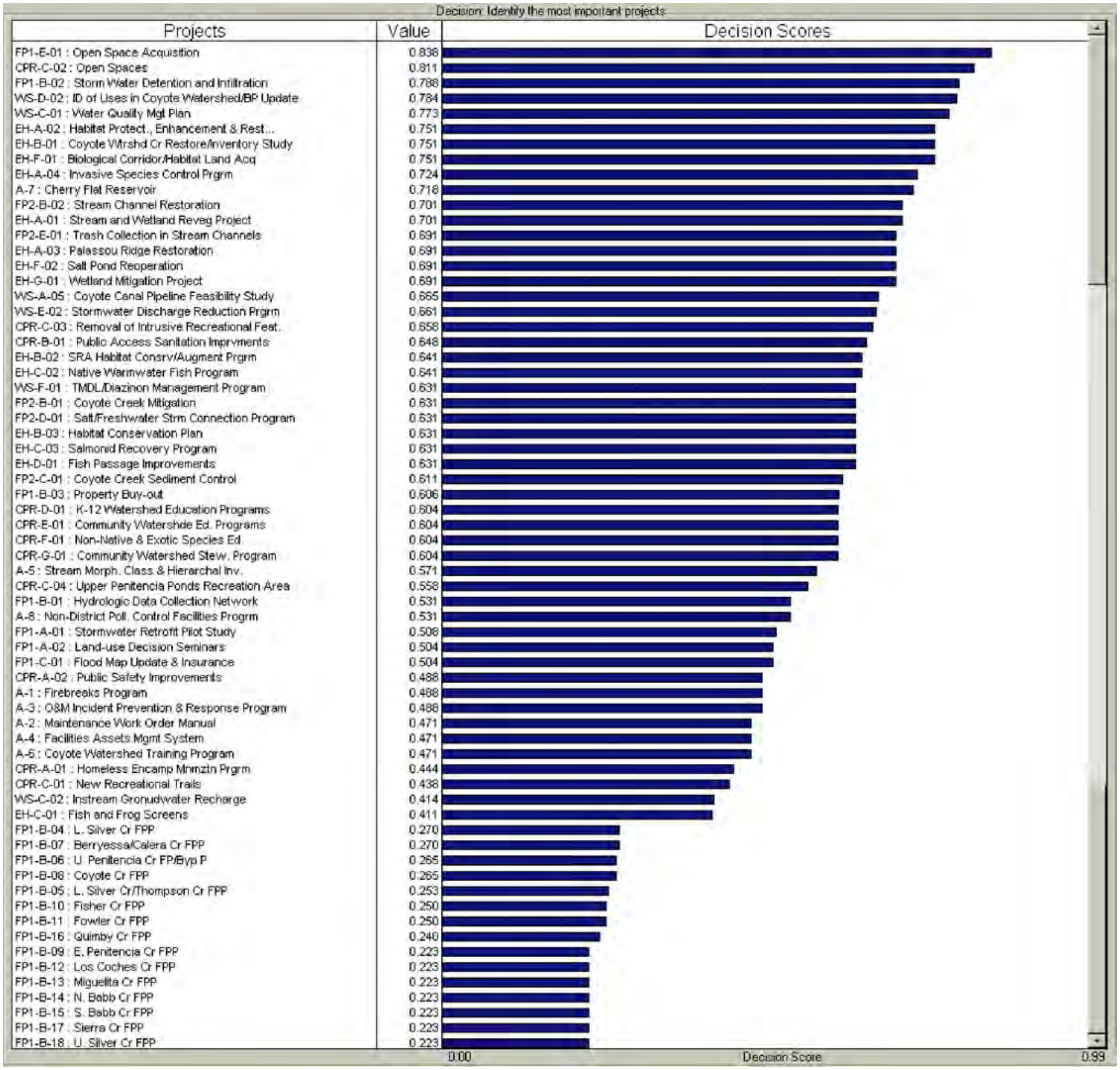
Projects	Value
CPR-C-02 : Open Spaces	0.719
FP1-B-03 : Property Buy-out	0.678
FP2-E-01 : Trash Collection in Stream Channels	0.669
FP1-B-02 : Storm Water Detention and Infiltration	0.644
FP1-E-01 : Open Space Acquisition	0.633
WS-D-02 : ID of Uses in Coyote Watershed/BP Update	0.631
EH-A-04 : Invasive Species Control Prgrm	0.606
WS-C-01 : Water Quality Mgt Plan	0.592
WS-A-05 : Coyote Canal Pipeline Feasibility Study	0.583
A-7 : Cherry Flat Reservoir	0.583
WS-E-02 : Stormwater Discharge Reduction Prgrm	0.569
CPR-C-03 : Removal of Intrusive Recreational Feat.	0.558
CPR-D-01 : K-12 Watershed Education Programs	0.556
CPR-E-01 : Community Watershde Ed. Programs	0.556
CPR-F-01 : Non-Native & Exotic Species Ed.	0.556
CPR-G-01 : Community Watershed Stew. Program	0.556
FP1-B-04 : L. Silver Cr FPP	0.550
FP1-B-07 : Berryessa/Calera Cr FPP	0.550
FP1-B-06 : U. Penitencia Cr FP/Byp P	0.533
FP1-B-08 : Coyote Cr FPP	0.533
FP2-B-02 : Stream Channel Restoration	0.528
EH-A-01 : Stream and Wetland Reveg Project	0.526
FP1-A-01 : Stormwater Retrofit Pilot Study	0.526
CPR-B-01 : Public Access Sanitation Imprvments	0.525
EH-A-02 : Habitat Protect., Enhancement & Rest...	0.519
EH-B-01 : Coyote Wtrshd Cr Restore/Inventory Study	0.519
EH-F-01 : Biological Corridor/Habitat Land Acq	0.519
CPR-C-04 : Upper Penitencia Ponds Recreation Area	0.517
FP1-A-02 : Land-use Decision Seminars	0.514
FP1-C-01 : Flood Map Update & Insurance	0.514
WS-C-02 : Instream Gronudwater Recharge	0.506
EH-B-02 : SRA Habitat Conserv/Augment Prgrm	0.503
EH-C-02 : Native Warmwater Fish Program	0.503
EH-A-03 : Palassou Ridge Restoration	0.494
EH-F-02 : Salt Pond Reoperation	0.494
EH-G-01 : Wetland Mitigation Project	0.494
FP1-B-05 : L. Silver Cr/Thompson Cr FPP	0.494
CPR-A-01 : Homeless Encamp Mnmztn Prgrm	0.489
FP1-B-10 : Fisher Cr FPP	0.483
FP1-B-11 : Fowler Cr FPP	0.483
WS-F-01 : TMDL/Diazinon Management Program	0.469
FP2-B-01 : Coyote Creek Mitigation	0.469
FP2-D-01 : Salt/Freshwater Strm Connection Program	0.469
EH-B-03 : Habitat Conservation Plan	0.469
EH-C-03 : Salmonid Recovery Program	0.469
EH-D-01 : Fish Passage Improvements	0.469
CPR-C-01 : New Recreational Trails	0.467
CPR-A-02 : Public Safety Improvements	0.458
A-1 : Firebreaks Program	0.458
A-3 : O&M Incident Prevention & Response Program	0.458
FP1-B-16 : Quimby Cr FPP	0.450
A-5 : Stream Morph. Class & Hierarchal Inv.	0.444
FP1-B-01 : Hydrologic Data Collection Network	0.428
A-8 : Non-District Poll. Control Facilities Progrm	0.428
FP2-C-01 : Coyote Creek Sediment Control	0.403
A-2 : Maintenance Work Order Manual	0.403
A-4 : Facilities Assets Mgmt System	0.403
A-6 : Coyote Watershed Training Program	0.403
FP1-B-09 : E. Penitencia Cr FPP	0.394
FP1-B-12 : Los Coches Cr FPP	0.394
FP1-B-13 : Miguelita Cr FPP	0.394
FP1-B-14 : N. Babb Cr FPP	0.394
FP1-B-15 : S. Babb Cr FPP	0.394
FP1-B-17 : Sierra Cr FPP	0.394
FP1-B-18 : U. Silver Cr FPP	0.394
EH-C-01 : Fish and Frog Screens	0.378

Figure 12A-2: Flood Protection Perspective Ranking Results



Projects	Value
FP1-B-04 : L. Silver Cr FPP	0.865
FP1-B-07 : Berryessa/Calera Cr FPP	0.865
FP1-B-05 : L. Silver Cr/Thompson Cr FPP	0.848
FP1-B-06 : U. Penitencia Cr FP/Byp P	0.825
FP1-B-08 : Coyote Cr FPP	0.825
FP1-B-02 : Storm Water Detention and Infiltration	0.718
FP1-B-10 : Fisher Cr FPP	0.705
FP1-B-11 : Fowler Cr FPP	0.705
FP1-A-01 : Stormwater Retrofit Pilot Study	0.683
WS-E-02 : Stormwater Discharge Reduction Prgrm	0.643
FP1-B-03 : Property Buy-out	0.641
FP1-B-16 : Quimby Cr FPP	0.625
FP1-B-09 : E. Penitencia Cr FPP	0.608
FP1-B-12 : Los Coches Cr FPP	0.608
FP1-B-13 : Miguelita Cr FPP	0.608
FP1-B-14 : N. Babb Cr FPP	0.608
FP1-B-15 : S. Babb Cr FPP	0.608
FP1-B-17 : Sierra Cr FPP	0.608
FP1-B-18 : U. Silver Cr FPP	0.608
WS-A-05 : Coyote Canal Pipeline Feasibility Study	0.560
CPR-C-02 : Open Spaces	0.548
FP2-E-01 : Trash Collection in Stream Channels	0.533
FP1-E-01 : Open Space Acquisition	0.523
A-7 : Cherry Flat Reservoir	0.508
CPR-C-03 : Removal of Intrusive Recreational Feat.	0.500
FP2-B-02 : Stream Channel Restoration	0.491
EH-A-01 : Stream and Wetland Reveg Project	0.491
CPR-C-04 : Upper Penitencia Ponds Recreation Area	0.488
WS-C-02 : Instream Gronudwater Recharge	0.484
EH-B-02 : SRA Habitat Consrv/Augment Prgrm	0.483
EH-C-02 : Native Warmwater Fish Program	0.483
WS-C-01 : Water Quality Mgt Plan	0.475
CPR-C-01 : New Recreational Trails	0.473
WS-D-02 : ID of Uses in Coyote Watershed/BP Update	0.452
EH-A-04 : Invasive Species Control Prgrm	0.444
CPR-D-01 : K-12 Watershed Education Programs	0.429
CPR-E-01 : Community Watershde Ed. Programs	0.429
CPR-F-01 : Non-Native & Exotic Species Ed	0.429
CPR-G-01 : Community Watershed Stew. Program	0.429
CPR-B-01 : Public Access Sanitation Imprvments	0.420
EH-A-02 : Habitat Protect., Enhancement & Rest...	0.418
EH-B-01 : Coyote Wrshd Cr Restore/Inventory Study	0.418
EH-F-01 : Biological Corridor/Habitat Land Acq	0.418
FP1-A-02 : Land-use Decision Seminars	0.417
FP1-C-01 : Flood Map Update & Insurance	0.417
EH-A-03 : Palassou Ridge Restoration	0.411
EH-F-02 : Salt Pond Reoperation	0.411
EH-G-01 : Wetland Mitigation Project	0.411
CPR-A-01 : Homeless Encamp Mnmztn Prgrm	0.409
WS-F-01 : TMDL/Diazinon Management Program	0.403
FP2-B-01 : Coyote Creek Mitigation	0.403
FP2-D-01 : Salt/Freshwater Strm Connection Program	0.403
EH-B-03 : Habitat Conservation Plan	0.403
EH-C-03 : Salmonid Recovery Program	0.403
EH-D-01 : Fish Passage Improvements	0.403
CPR-A-02 : Public Safety Improvements	0.400
A-1 : Firebreaks Program	0.400
A-3 : O&M Incident Prevention & Response Program	0.400
A-5 : Stream Morph. Class & Hierarchal Inv.	0.396
FP1-B-01 : Hydrologic Data Collection Network	0.391
A-8 : Non-District Poll. Control Facilities Progrm	0.391
A-2 : Maintenance Work Order Manual	0.383
A-4 : Facilities Assets Mgmt System	0.383
A-6 : Coyote Watershed Training Program	0.383
EH-C-01 : Fish and Frog Screens	0.376
FP2-C-01 : Coyote Creek Sediment Control	0.243

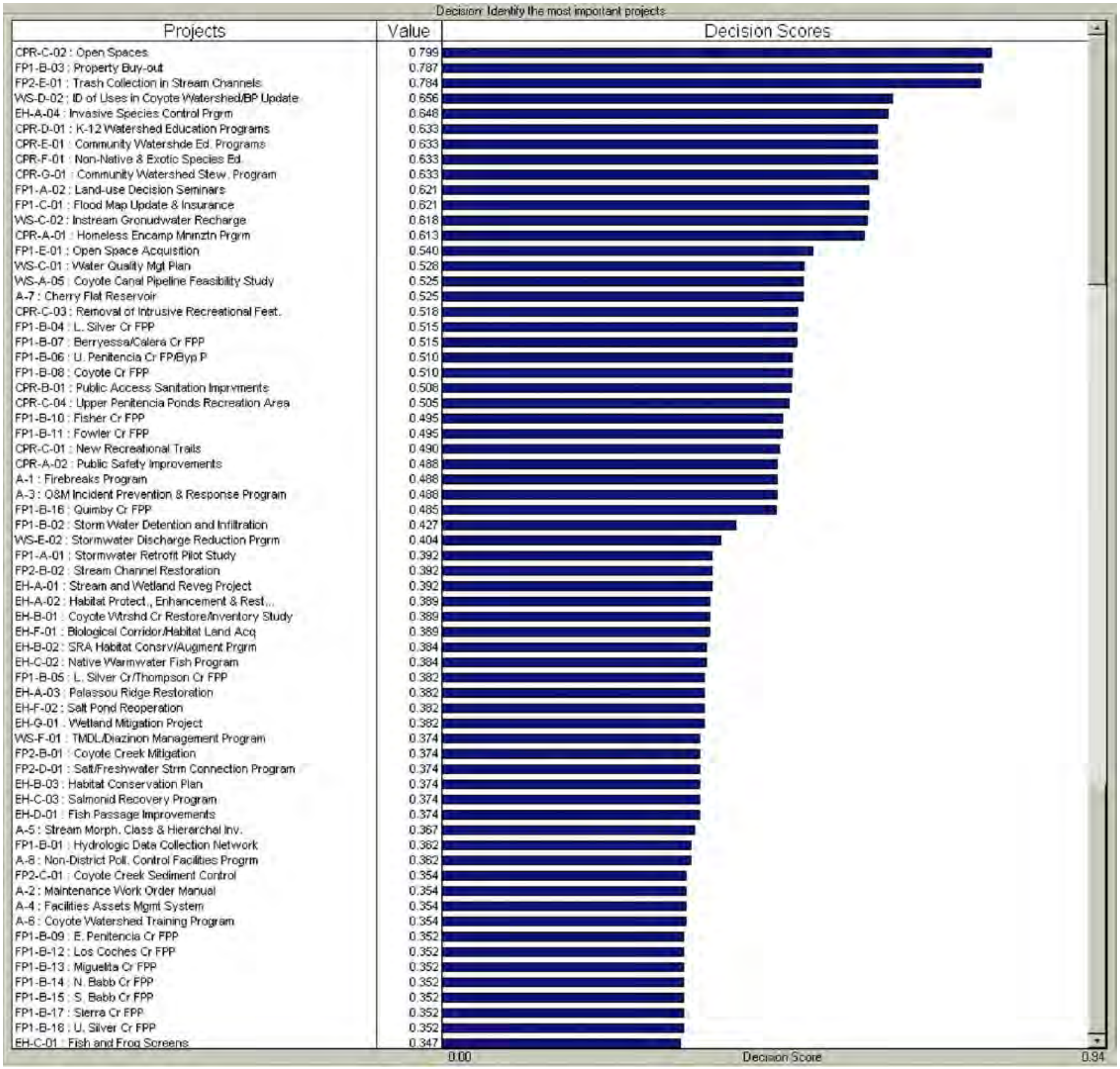
Figure 12A-3: Environment/Habitat Perspective Ranking Results



Decision: Identify the most important projects

Projects	Value
FP1-E-01 : Open Space Acquisition	0.838
CPR-C-02 : Open Spaces	0.811
FP1-B-02 : Storm Water Detention and Infiltration	0.788
WS-D-02 : ID of Uses in Coyote Watershed/BP Update	0.784
WS-C-01 : Water Quality Mgt Plan	0.773
EH-A-02 : Habitat Protect., Enhancement & Rest...	0.751
EH-B-01 : Coyote Wtrshd Cr Restore/Inventory Study	0.751
EH-F-01 : Biological Corridor/Habitat Land Acq	0.751
EH-A-04 : Invasive Species Control Prgrm	0.724
A-7 : Cherry Flat Reservoir	0.718
FP2-B-02 : Stream Channel Restoration	0.701
EH-A-01 : Stream and Wetland Reveg Project	0.701
FP2-E-01 : Trash Collection in Stream Channels	0.691
EH-A-03 : Palassou Ridge Restoration	0.691
EH-F-02 : Salt Pond Reoperation	0.691
EH-G-01 : Wetland Mitigation Project	0.691
WS-A-05 : Coyote Canal Pipeline Feasibility Study	0.665
WS-E-02 : Stormwater Discharge Reduction Prgrm	0.661
CPR-C-03 : Removal of Intrusive Recreational Feat.	0.658
CPR-B-01 : Public Access Sanitation Imprvments	0.648
EH-B-02 : SRA Habitat Consrv/Augment Prgrm	0.641
EH-C-02 : Native Warmwater Fish Program	0.641
WS-F-01 : TMDL/Diazinon Management Program	0.631
FP2-B-01 : Coyote Creek Mitigation	0.631
FP2-D-01 : Salt/Freshwater Strm Connection Program	0.631
EH-B-03 : Habitat Conservation Plan	0.631
EH-C-03 : Salmonid Recovery Program	0.631
EH-D-01 : Fish Passage Improvements	0.631
FP2-C-01 : Coyote Creek Sediment Control	0.611
FP1-B-03 : Property Buy-out	0.606
CPR-D-01 : K-12 Watershed Education Programs	0.604
CPR-E-01 : Community Watershde Ed. Programs	0.604
CPR-F-01 : Non-Native & Exotic Species Ed.	0.604
CPR-G-01 : Community Watershed Stew. Program	0.604
A-5 : Stream Morph. Class & Hierarchal Inv.	0.571
CPR-C-04 : Upper Penitencia Ponds Recreation Area	0.558
FP1-B-01 : Hydrologic Data Collection Network	0.531
A-8 : Non-District Poll. Control Facilities Progrm	0.531
FP1-A-01 : Stormwater Retrofit Pilot Study	0.508
FP1-A-02 : Land-use Decision Seminars	0.504
FP1-C-01 : Flood Map Update & Insurance	0.504
CPR-A-02 : Public Safety Improvements	0.488
A-1 : Firebreaks Program	0.488
A-3 : O&M Incident Prevention & Response Program	0.488
A-2 : Maintenance Work Order Manual	0.471
A-4 : Facilities Assets Mgmt System	0.471
A-6 : Coyote Watershed Training Program	0.471
CPR-A-01 : Homeless Encamp Mnmztn Prgrm	0.444
CPR-C-01 : New Recreational Trails	0.438
WS-C-02 : Instream Gronudwater Recharge	0.414
EH-C-01 : Fish and Frog Screens	0.411
FP1-B-04 : L. Silver Cr FPP	0.270
FP1-B-07 : Berryessa/Calera Cr FPP	0.270
FP1-B-06 : U. Penitencia Cr FP/Byp P	0.265
FP1-B-08 : Coyote Cr FPP	0.265
FP1-B-05 : L. Silver Cr/Thompson Cr FPP	0.253
FP1-B-10 : Fisher Cr FPP	0.250
FP1-B-11 : Fowler Cr FPP	0.250
FP1-B-16 : Quimby Cr FPP	0.240
FP1-B-09 : E. Penitencia Cr FPP	0.223
FP1-B-12 : Los Coches Cr FPP	0.223
FP1-B-13 : Miguelita Cr FPP	0.223
FP1-B-14 : N. Babb Cr FPP	0.223
FP1-B-15 : S. Babb Cr FPP	0.223
FP1-B-17 : Sierra Cr FPP	0.223
FP1-B-18 : U. Silver Cr FPP	0.223

Figure 12A-4: Community Participation/Recreation Perspective Ranking Results



Projects	Value
CPR-C-02 : Open Spaces	0.799
FP1-B-03 : Property Buy-out	0.787
FP2-E-01 : Trash Collection in Stream Channels	0.784
WS-D-02 : ID of Uses in Coyote Watershed/BP Update	0.656
EH-A-04 : Invasive Species Control Prgrm	0.648
CPR-D-01 : K-12 Watershed Education Programs	0.633
CPR-E-01 : Community Watershde Ed. Programs	0.633
CPR-F-01 : Non-Native & Exotic Species Ed.	0.633
CPR-G-01 : Community Watershed Stew. Program	0.633
FP1-A-02 : Land-use Decision Seminars	0.621
FP1-C-01 : Flood Map Update & Insurance	0.621
WS-C-02 : Instream Gronudwater Recharge	0.618
CPR-A-01 : Homeless Encamp Mnmztn Prgrm	0.613
FP1-E-01 : Open Space Acquisition	0.540
WS-C-01 : Water Quality Mgt Plan	0.528
WS-A-05 : Coyote Canal Pipeline Feasibility Study	0.525
A-7 : Cherry Flat Reservoir	0.525
CPR-C-03 : Removal of Intrusive Recreational Feat.	0.518
FP1-B-04 : L. Silver Cr FPP	0.515
FP1-B-07 : Berryessa/Calera Cr FPP	0.515
FP1-B-06 : U. Penitencia Cr FP/Byp P	0.510
FP1-B-08 : Coyote Cr FPP	0.510
CPR-B-01 : Public Access Sanitation Imprvments	0.508
CPR-C-04 : Upper Penitencia Ponds Recreation Area	0.505
FP1-B-10 : Fisher Cr FPP	0.495
FP1-B-11 : Fowler Cr FPP	0.495
CPR-C-01 : New Recreational Trails	0.490
CPR-A-02 : Public Safety Improvements	0.488
A-1 : Firebreaks Program	0.488
A-3 : O&M Incident Prevention & Response Program	0.488
FP1-B-16 : Quimby Cr FPP	0.485
FP1-B-02 : Storm Water Detention and Infiltration	0.427
WS-E-02 : Stormwater Discharge Reduction Prgrm	0.404
FP1-A-01 : Stormwater Retrofit Pilot Study	0.392
FP2-B-02 : Stream Channel Restoration	0.392
EH-A-01 : Stream and Wetland Reveg Project	0.392
EH-A-02 : Habitat Protect., Enhancement & Rest...	0.389
EH-B-01 : Coyote Wtrshd Cr Restore/Inventory Study	0.389
EH-F-01 : Biological Corridor/Habitat Land Acq	0.389
EH-B-02 : SRA Habitat Consrv/Augment Prgrm	0.384
EH-C-02 : Native Warmwater Fish Program	0.384
FP1-B-05 : L. Silver Cr/Thompson Cr FPP	0.382
EH-A-03 : Palassou Ridge Restoration	0.382
EH-F-02 : Salt Pond Reoperation	0.382
EH-G-01 : Wetland Mitigation Project	0.382
WS-F-01 : TMDL/Diazinon Management Program	0.374
FP2-B-01 : Coyote Creek Mitigation	0.374
FP2-D-01 : Salt/Freshwater Strm Connection Program	0.374
EH-B-03 : Habitat Conservation Plan	0.374
EH-C-03 : Salmonid Recovery Program	0.374
EH-D-01 : Fish Passage Improvements	0.374
A-5 : Stream Morph. Class & Hierarchal Inv.	0.367
FP1-B-01 : Hydrologic Data Collection Network	0.362
A-8 : Non-District Poll. Control Facilities Progrm	0.362
FP2-C-01 : Coyote Creek Sediment Control	0.354
A-2 : Maintenance Work Order Manual	0.354
A-4 : Facilities Assets Mgmt System	0.354
A-6 : Coyote Watershed Training Program	0.354
FP1-B-09 : E. Penitencia Cr FPP	0.352
FP1-B-12 : Los Coches Cr FPP	0.352
FP1-B-13 : Miguelita Cr FPP	0.352
FP1-B-14 : N. Babb Cr FPP	0.352
FP1-B-15 : S. Babb Cr FPP	0.352
FP1-B-17 : Sierra Cr FPP	0.352
FP1-B-18 : U. Silver Cr FPP	0.352
EH-C-01 : Fish and Frog Screens	0.347

Chapter 13 Funding Strategies

The results of the "balanced" ranking presents a list of the projects best meeting the ranking criteria, but does not represent available funding sources for projects. As a result, the implementation of projects with available sources of funding, such as flood protection projects, may be accelerated at the expense of other types of projects. This impacts the schedules for project implementation at the expense of the project ranking.

This section will describe project funding through four sources, the Coyote Watershed Program (CWP), the Clean, Safe Creeks and Natural Flood Protection Program, Other Existing District Funding and External Funding. Grant information, including research on grants that are potentially relevant to Coyote Watershed projects, was provided by staff of the Supplemental Fund Development Program. Further information was compiled from the District's 2001/02 and 2002/03 Capital and Operating Budget, now available on the District website at http://www.scvwd.dst.ca.us/budget/index.htm, and from additional references which are listed at the end of this chapter. Persons interviewed are also listed in the references section.

13.1 Organization of This Chapter

Chapter 13 describes the Plan Funding strategies, and is organized into two major sections:

Section 13.2 – District funding: This section describes the procedures for District funding of projects, identifies funding opportunities within existing District funds, and identifies available funding.

Section 13.3 – Other Potential Funding Sources: This section reviews potential non-District sources of funding for watershed projects, including federal, state, local, loans and grants.

Section 13.4 – References: This section provides a reference to the information contained in this report.

13.2 District Funding

There are two budgets, Operating and Capital, coordinated within each biennial District budgeting effort. The Operating Budget is comprised of all operations and operating projects within a fund and within an organizational unit, and consists of budgeted expenditures and expenses necessary to maintain and operate the daily operations of the District within a fiscal year. The Capital Budget is comprised of all capital projects within a fund. Capital projects are budgeted expenditures or expenses to major facilities or systems having a long-term life of benefit to the District, and are normally constructed or developed over several years. All capital expenditure budgets are developed through a formal Capital Improvement Planning (CIP) process, including review of impacts on the Operating Budget. Unlike the Operating Budget, the budgeted amount to a capital project does not expire on June 30th of each fiscal year. The unspent and unencumbered balance is carried over each year until completion and closure of a project.

13.2.1 Budget Procedures

The District's budgeting practices use a goals-driven approach that spans the planning, development, adoption, and execution phases of the budget. These practices encourage developing organizational goals, establishing policies, and developing plans to achieve those goals and policies. Recommended budget practices for improved state and local government budgeting prepared by the National Advisory Council on State and Local Budgeting (NACSLB) and the Government Finance Officer's Association (GFOA) were used to develop this formal budget process.

The District's budget process has both financial and technical dimensions. It consists of the following broad principles:

1. Establish broad goals to guide decision making;
2. Develop approaches to achieve goals;
3. Develop a budget consistent with approaches to achieve goals; and
4. Evaluate performance and make adjustments.

These principles are performed concurrently, in an iterative process, with information obtained from one activity or function aiding in the achievement of another. These broad principles are also in keeping with the policy limitations of the District's Board of Directors. Called Executive Limitations, they provide direction on how the budget is prepared, emphasizing results for the community and allowing for longer-term financial planning decisions.

During preparation of the Budget, revenue projections are, in general, taken from the District's long-range planning documents. The Water Enterprise Fund's revenue assumptions are extracted from the Water Utility Enterprise Report, specifically, the 10-year plan. The Watershed Funds' revenue assumptions are derived from the Flood Control Benefit Assessments Report, and the Clean, Safe Creeks and Natural Flood Protection Report. Cash flow estimates are prepared and updated for long-term projects and programs, such as for the Clean, Safe Creeks Fund.

The FY 2002-2003 budget includes projected revenues of $219.4 million, which is a decrease of 15.3 percent from FY 2001-2002. This represents an anticipated decrease of 83.3 percent in intergovernmental revenues consisting chiefly of capital reimbursements and a 17.8 percent decrease in interest earnings from the prior year offset by small increases in property taxes and water revenues.

Ideas for new projects, programs or services that could be included in the District Budget can arise from District Board members, management, staff or members of the public. However, once an idea is proposed, inclusion in the adopted Budget requires coordination with and support from the managers (e.g. Coyote Watershed Manager) who would have ownership responsibility for the work once it is budgeted. This is especially true if the proposed idea is not incorporated into an existing project but instead requires a new project number for inclusion in the District's biennial Budget.

If the appropriate managers support a proposed idea, the next step is development of a draft work plan sufficient to describe the effort's scope of work and schedule milestones. Resources are estimated and assigned to assure sufficient staff and equipment are available to complete the proposed work. This information is then inserted into official forms which are needed to acquire a District project number. Provided that a new project is approved by the District Budget Committee and given a number, it would then be incorporated into the budget of a specific District unit, with appropriate funding and resources indicated. The new project would be reviewed and revised during iterative rounds of the budget preparation process. Finally, in the event the new project is included in the adopted Budget (Board approved), it would be implemented and tracked according to the information in the budget and work plan.

13.2.2 District Funds

The accounts of the District are organized on the basis of fund types and account groups. Each fund is an independent accounting entity with a self-balancing set of accounts comprised of its assets, liabilities, fund equity, revenue, and expenditures or expenses, as appropriate (see page III-3 of 2001 – 2003 Budget). There are a total of eleven funds that support work throughout the District, however only three of these funds directly apply to activities of the Coyote Creek Watershed Program. The Watershed and Stream Stewardship (SS) Fund, and the new Clean, Safe Creeks and Natural Flood Protection (CSC) Fund are available for use in all parts of the District's countywide jurisdiction. The Coyote Watershed Fund, which uses revenue generated by Benefit Assessment elections for the Coyote Flood Zone, is a special revenue fund, which is limited to the geographic limits of the Coyote Creek Watershed.

TABLE 13-1: DISTRICT FUNDS

Funds	Sub-funds
General Fund: District's primary operating fund, accounts for all financial resources that are not required to be in another fund. For reporting purposes, the Watershed and Stream Stewardship fund is consolidated with the other financial transactions in the District General Fund.	General Fund**
	Watershed and Stream Stewardship Fund*
Special Revenue Fund: these "watershed funds" are used to account for specific revenue sources for which expenditures are restricted by law or regulation to finance particular watershed functions or activities.	Lower Peninsula Watershed
	West Valley Watershed
	Guadalupe Watershed
	Coyote Watershed*
	Uvas/Llagas Watershed
	Clean, Safe Creeks and Natural Flood Protection*
Enterprise Fund: used to account for operations that are financed and operated in a manner similar to private business enterprises where the costs of providing goods and services are financed primarily through user charges.	Water Enterprise Fund**
Internal Service Funds: used to account for costs provided by one District department to other departments on a cost reimbursement basis.	Equipment Fund**
	Risk Insurance Fund**

Source: SCVWD 2001/02 and 2002/03 Capital and Operating Budget
* Direct relationship to Coyote Watershed Program Activities
** Indirect relationship to Coyote Watershed Program Activities

Sub-funds with an indirect relationship to Coyote Watershed activities include the following:

- **General Fund** – this primary operating fund is used to pay the District's property taxes and facility costs. It also accounts for all revenues and expenditures not accounted for in any other District fund.

- **Water Enterprise Fund** – provides for importing surface water and managing local surface and groundwater supplies for residents of Santa Clara County. Capital projects within the Coyote watershed area include modifications to the Penitencia Water Treatment Plant to meet new Drinking Water Regulations. Operational projects related to water quality protection, recycled water, and maintenance of water supply reservoirs, pipelines and groundwater recharge ponds are also addressed under the Water Enterprise Fund.

- **Equipment Service Fund** – used for operation, maintenance, and replacement of all District vehicles, construction operating equipment, services, and office computer systems. Replacement and maintenance costs are charged back to the applicable organizational unit using pre-established rates.

- **Risk Insurance Service Fund** – provides for liability, property, Workers' Compensation Insurance, and self-insurance risks. Like the Equipment Service Fund, costs are charged back to cost centers as applicable in the form of internal service charges.

With the exception of the Water Enterprise Fund, these funds would not be appropriate to provide revenue for Coyote Watershed projects. Prioritized projects associated with water quality protection, recycled water use, and groundwater recharge facilities may be sufficiently related to water supply activities to be considered for funding under the Water Enterprise Fund. More information on the Water Enterprise activities can be found in the District Summary Budget, pages I-10 through I-13, and also III-89 through III-94. Detailed descriptions of the Coyote Watershed, Watershed and Stream Stewardship and Clean Safe Creeks and Natural Flood Protection Funds follow are summarized below.

As indicated in Table 13-1, projects in the Coyote Watershed Program are primarily funded by the Coyote Watershed, Stream Stewardship, and Clean Safe Creeks funds. Each of these funds have appropriated money to various projects that would be implemented through the 2015/2016 fiscal year. This information is summarized from the District's 2001-2002 Capital Improvement Plan, where more detailed information about each fund can be obtained. A brief summary of each fund is contained below.

Coyote Watershed Fund: The Coyote Watershed Fund is one of five watershed funds corresponding to the five historic flood control zones: Northwest, North Central, Central, East and South Zones. The Coyote Watershed Fund currently receives revenue from the historic 1% ad valorem property tax, benefit assessments, and interest from the investment of unspent funds. Additional watershed funding include draws on Certificates of Participation proceeds and state subvention reimbursements, Federal funding, and supplemental sources such as grants.

Capital projects currently funded by the Coyote Watershed fund include flood protection projects previously identified on Lower Silver Creek, Upper Penitencia Creek, Berryessa Creek, and Coyote Creek.

Watershed and Stream Stewardship Fund: The Watershed and Stream Stewardship (SS) Fund receives a portion of the historic water utility ad valorem property taxes and income from investments. It has the potential to also receive state, federal funds, and local cost sharing when available.

The SS Fund pools 1% ad valorem tax allocations property taxes from all of the flood zones, the District fund, and the water utility enterprise and applies the revenue to the watershed/stream management activities without regard for the geographic source of the monies. For example, capital projects currently budgeted under this fund include the Pond A-4 Tidal Wetlands Mitigation, Alamitos Fish Ladder Public Access, and the Church Avenue Percolation Pond Wetlands. Although none of these activities are located in the Coyote Watershed, they will provide mitigation for maintenance activities in the Coyote Watershed.

Clean, Safe Creeks and Natural Flood Protection (CSC) Fund: The CSC fund receives revenue from the new county-wide special tax, and will receive interest income from investments once tax dollars begin to be collected. Like the Watershed Funds and SS Fund, the CSC Fund also has the potential to receive state, federal funds, and local cost sharing when available.

The program developed for the CSC defined four outcomes with pay-as-you-go capital projects and programs identified along with revenue that would be available. Activities specified by the Clean, Safe Creeks and Natural Flood Protection plan include four major outcomes listed below.

1. Homes, schools, businesses and transportation networks are protected from flooding.
2. There is clean, safe water in our creeks and bays.
3. Creek and bay ecosystems are protected, enhanced or restored.
4. There are additional open spaces, trails and parks along creeks and in the watersheds.

Since the implementation of CSC is a commitment that must be achieved and will be closely monitored, funds will only be available for listed activities. Any projects or programs that are not included or that deviate from that shown in the CSC program will either have to be funded from unspent revenue dedicated to the zone or will have to compete for the revenue now available county-wide.

13.2.3 Reserves and Appropriations

Reserves and appropriations are those funds, which the District has previously set aside for specific project work, but without a contract or agreement for use of the funds. These revenues are carried over from year to year until needed for the specified purpose. Once an agreement for services or a construction contract is signed between the District and another entity, the funds are ‘encumbered’. Reserves and appropriations are invested in low risk financial vehicles and produce investment income (see 13.3.3 - Income from Investments for further information).

13.2.4 Projected Funding Availability

The District’s 2001/2002 Capital Improvements Plan projects funding requirements and the anticipated future capital reserve through the year 2016. Though funding candidate projects through the Coyote Watershed Fund may be difficult, due to cash flow issues through 2007, there are large reserves that are accumulating in the CSC and SS funds, as shown in Table 13-2. The SS Fund is currently funding only three projects through 2016, and is projected have net positive balances between 2003-2016. Beginning in Fiscal Year 2004, the SS fund will continue to accumulate large capital reserves annually unless it funds additional projects, ballooning to over $100 million in 2016 at current projections. The availability of funds through the CSC or Coyote Watershed Fund may be limited based on current cash flow projections, though there are some years where net positive cash flows are anticipated.

TABLE 13-2: SUMMARY OF PROJECTED FUNDING NEEDS

Fiscal Year	Amount Fund Designates for Future Years Capital Reserve ($000)			Sum of Three Funds
	Clean Safe Creeks	Stream Stewardship	Coyote Watershed	
02	$12,430	$1,011	$4,046	$17,487
03	$20,871	$2,221	$2,416	$25,508
04	$25,654	$6,386	$(101)	$31,939
05	$14,559	$11,752	$(2,892)	$23,419
06	$12,712	$17,493	$(3,310)	$26,895
07	$5,442	$23,693	$(3,981)	$25,154
08	$17,107	$32,612	$6,579	$56,298
09	$28,305	$38,050	$6,600	$72,955
10	$3,924	$46,043	$6,799	$56,766
11	$2,156	$54,625	$7,662	$64,443
12	$3,290	$63,834	$8,355	$75,479
13	$4,235	$73,708	$8,972	$86,915
14	$12,304	$84,285	$9,611	$106,200
15	$20,695	$95,608	$10,273	$126,576
16	$29,514	$107,721	$10,960	$148,195

Notes:

1. Fiscal year 02 is equivalent to FY 2001/2002
2. Projections include annual increases for inflation.
3. Clean Safe Creeks = Clean Safe Creeks and Natural Flood Protection Fund
4. Stream Stewardship = Watershed and Stream Stewardship Fund
5. Coyote Watershed = Coyote Watershed Fund

Source: Santa Clara Valley Water District 2001/02 Capital Improvement Plan

It would be expected that reserves would either be reallocated to projects meeting the Ends Policy or to other funds as determined by District Management or the Board prior to the accumulation of the significant reserves identified in Table 13-2. It is also expected that there will be significant opportunities for several Coyote Watershed projects to be funded via one of these funds.

13.3 Other Potential Funding Sources

If the District depended solely on itself to fund watershed projects, its ability to meet the Ends Policy would be severely limited. The District historically pursues external grants, loans, partnerships and support from a variety of external sources, including:

- Federal;
- State Subventions;
- Partnerships with local stakeholders;
- Loans
- Grant Opportunities

Potential opportunities for funding through these avenues are summarized below.

13.3.1 Federal Funding

In addition to local funding sources, both state and federal programs help fund local flood protection efforts. The District has actively pursued these programs over the past 40 years to supplement local funds and provide flood protection that might not otherwise be accomplished. Two such projects on Uvas and Coyote Creeks have been successfully completed in the past 10 years, and multiple others are currently in the planning or design stage.

Federal programs are sponsored primarily through the United States Army Corps of Engineers (USACOE) or the Natural Resources Conservation Service (NRCS). Historically, the share of flood protection projects funded by the USACOE includes work associated with the stream itself and can include such things as excavation, stream lining, levees, revegetation, etc. The local share includes the responsibility to fund the local costs that include land rights, bridges, and relocation of utilities. The District is usually responsible for maintenance of the projects once they are completed. The federal entity will reimburse any of the local costs that exceed 50 percent of the total project cost. The State has a program whereby it will participate in federal projects by contributing to the local share of the project cost.

Federal funds are not “free” to the District. They take much time and effort to secure. In addition to technical review and coordination, the federal process itself is very involved and requires an extensive long-term commitment on the District’s part. This process is more fully described in the SCVWD Status Report: Federal Projects for Santa Clara County, California and Federal Appropriations Statements of Support – Fiscal Year 2002 Report (Delegation Report), dated April 2001. In order for a project to be federally sponsored, several criteria must be met. A federal study must indicate the project has a benefit to cost ratio of 1.0 or better. The local sponsor must be willing to cost share in the project, and the local agency must demonstrate financial capability to fund its share of the project costs before the project can begin. Congress must authorize the project and must annually appropriate funds for a project study or for project implementation once it is approved.

13.3.2 State Subventions

The State of California has a program to help meet the costs of approved federal flood protection projects through the Department of Water Resources Flood Control Subventions Program. Under this program, the State agrees to reimburse local agencies for all or a portion of the local share of a federal project's cost. The State's percentage of contribution has varied over the years for the District. Earlier projects such as Llagas Creek were eligible for 100% reimbursement, while more recent projects such as Lower Silver Creek were eligible to receive up to 70% reimbursement. Pursuant to Assembly Bill 2784 that became law January 1, 1999, Congress must approve state participation in a federal project prior to their approval. The percentage of state contribution will be negotiated on a case-by-case basis.

The state subventions program has been a significant source of revenue for federally supported projects. The amount received through FY 2000/2001 from the State is about $50 million and there is approximately $42 million in outstanding reimbursement requests that have not been paid. The District has been persistent in encouraging state legislators to meet the state commitments for subventions.

13.3.3 Partnerships

In addition to partnering with federal and state agencies for flood control projects, the District has occasionally partnered with local cities and Santa Clara County on construction projects. This source of funding has had relatively limited application in the past. However, with broadening of the District's mission, new opportunities for cost-sharing with local cities, the county, various open space and recreational agencies, and non-profit organizations have emerged.

One example of local cost sharing is the District's participation on the Palassou Ridge Management and Restoration Project. This 9,010-acre property, known as the Lakeview Meadows Ranch, was purchased by the Nature Conservancy and the Open Space Authority on the watershed lands (Palassou Ridge) above Coyote and Anderson Reservoirs. In February 2001, the Board approved a cost sharing agreement with the Santa Clara County Open Space Authority for development of a wetland management project for Palassou Ridge. The District has not initiated a program-level effort to investigate its numerous partnership opportunities, but continues to assess partnership opportunities on a case-by-case basis.

13.3.4 Loans

The District, with its AA credit rating, has the ability to borrow money for its projects and programs. The District may pursue low-interest loans from the State Revolving Fund for planned improvements to its three treated water plants. Generally, however, in keeping with Board-adopted policies listed under Executive Limitations, it maintains a balanced budget. Additional budget policies include not risking financial jeopardy, credible revenue and expenditure projects, and adequate cash flows to meet operational and capital needs.

In the past, there have been some loans between flood zones, but this is now avoided. The District does have authorization to borrow up to $6M for emergency needs. In this event, it would more likely use its own reserves, however, since that would be in keeping with District policies related to budget expenditures.

13.3.5 Grant Opportunities

The District has a long history of vigorously pursuing State and Federal grants for its flood protection and water supply activities. More recently, since 1999, it has recognized the opportunity to pursue a broader range of supplemental revenues to fund water quality improvement, habitat protection, education, and other District activities in addition to flood protection and water supply. Most supplemental funding opportunities involve grants that the District would compete for are managed by the Supplemental Fund Development (SFD) Program in the Government Relations Unit. SFD Program staff report to the Chief of Public Affairs for all fund development programs including public relations activities.

In order to keep information current, the SFD Program created a Prospect Management System database on the District's intranet. The system, still under development, will allow staff to:

1. Add a new grant proposal entry;
2. View or update current grant proposals;
3. Add a new project;
4. View or update projects;
5. Match grants to projects; and
6. Provide grant application status report.

The District's supplemental funding process is probably best described by using an example project. To cite an instance, if the project manager of the Lower Silver Creek project (District Project No. 402603) wanted to investigate additional funding, he/she would first examine the database. Based on the project's description, the database shows there are nine potential funding sources, listed as numbers 6, 13, 15, 16, 17, 23 and 24. These numbers are linked to a grant proposal database table and eventually to hyperlinks with websites of potential grants. For example, potential grant number 6 indicates the Partners for Fish and Wildlife Habitat

Restoration Program. A complete list of potential grant opportunities in the database as of 11/01 is summarized in Table 13-3, which is located at the end of this chapter..

If further investigation of the potential grants determined the viability of applying for one or more to fund a specific project or project element, the project manager would then work with the Program staff to develop one or more grant application packages. The application would be prepared by the project manager working with in-house or consultant staff familiar with the project components and grant proposals. The SFD staff would provide coordination, oversight, and review prior to the grant application submittal.

13.4 References

1. Nancy Immelkeppel, Project Coordinator, Santa Clara Valley Water District, interview regarding budget procedures, July 2001

2. William Hoeft, Business Manager, Santa Clara Valley Water District, interview regarding district financial procedures, July 2001

3. Chris Elias, Senior Project Manager, Santa Clara Valley Water District, interview regarding supplemental funding program, August 2001

4. Colby Smith, interview regarding grants appropriate for Coyote Watershed projects, August 14, 2001.

5. Santa Clara Valley Water District, Office of Coyote/Uvas/Llagas Watershed, Fiscal Year 2001/02 Operations Plan (Draft), July 2001.

6. Santa Clara Valley Water District, Comprehensive Flood Management Project, Phase I Report on Development of Baseline Programs and Alternative Funding Mechanisms, March 1998.

7. Santa Clara Valley Water District, Budget and Financial Status Report for Fiscal Year 2000/2001 as of May 31, 2001.

8. Santa Clara Valley Water District, Status Report: Federal Projects for Santa Clara County, California and Federal Appropriation Statements of Support Fiscal Year 2002, April 2001.

9. Santa Clara Valley Water District Internet website: www.scvwd.dst.ca.us

TABLE 13-3: SUMMARY OF MAJOR CANDIDATE FUNDING SOURCES

Source	Project Types	Avail. $	Contact
Proposition 13 – Watershed Protection Program (Prop 13 – WPP)	Watershed Protection Projects	$50,000 to $5,000,000	Bill Campbell/Ken Harris State Water Resources Control Board Division of Water Quality 1001 "I" Street, 15th Floor Sacramento, CA 95814
Proposition 13 – Nonpoint Source Program (Prop 13 – NPSP)	Nonpoint Source Projects	$5,000,000	Ken Harris State Water Resources Control Board Division of Water Quality 1001 "I" Street, 15th Floor Sacramento, CA 95814-2828 (916) 341-5500
Department of Water Resources Urban Streams Restoration Program Proposition 13 (Prop 13 – USP)	Reduce flooding and erosion on urban streams while improving environmental values	Not available	Kurt Malchow P.O. Box 942836 Sacramento, CA 94236-0001 (916) 651-9627 e-mail: kurtm@water.ca.gov
California Department of Parks and Recreation – Riparian and Riverine Habitat Grant Program (RRHGP)	Acquisition, development or improvement or recreation areas, open space, parks and trails in close proximity to streams and rivers.	$20,000 to $400,000	California Department of Parks and Recreation Office of Grants and Local Services 1416 9th Street P.O. Box 942896 Sacramento, CA 94296-0001 (916) 653-7423

Source	Project Types	Avail. $	Contact
California Department of Parks and Recreation Habitat Conservation Fund (HCF)	Acquisition, restoration, and enhancement of wildlife habitat and significant natural areas including riparian and wetland areas, and for programs that will bring urban residents into park and wildlife areas	$2,000,000 (in total)	California Department of Parks and Recreation Office of Grants and Local Services 1416 9th Street P.O. Box 942896 Sacramento, CA 94296-0001 (916) 653-7423
Wildlife Conservation Board California Riparian Habitat Conservation Program (CRHCP)	Land acquisition, restoration and enhancement of riparian habitat.	Not available	Wildlife Conservation Board Riparian Program Manager 1807 13th Street, Suite 103 Sacramento, CA 95814 (916) 445-1072
Wildlife Conservation Board Natural Heritage Preservation Tax Credit Program (NHPTCP)	This program allows private landowners to donate land or water rights to state and local agencies or designated nonprofit organizations for conservation purposes. The donor then receives a tax credit for a portion of the value of the property.	Not applicable	Wildlife Conservation Board 1807 13th Street, Suite 103, Sacramento, CA 95814 (916) 445-1072. http://www.dfg.ca.gov/wcb
Project Impact Grant Program	Helps communities that have a history of losses from natural disasters or have a significant disaster risk, such as those located in watershed floodplains.	$25 million allocated to State of California	Federal Emergency Management Agency 500 C. Street, SW Washington, DC 20472 eipa@fema.gov (202) 646-4600

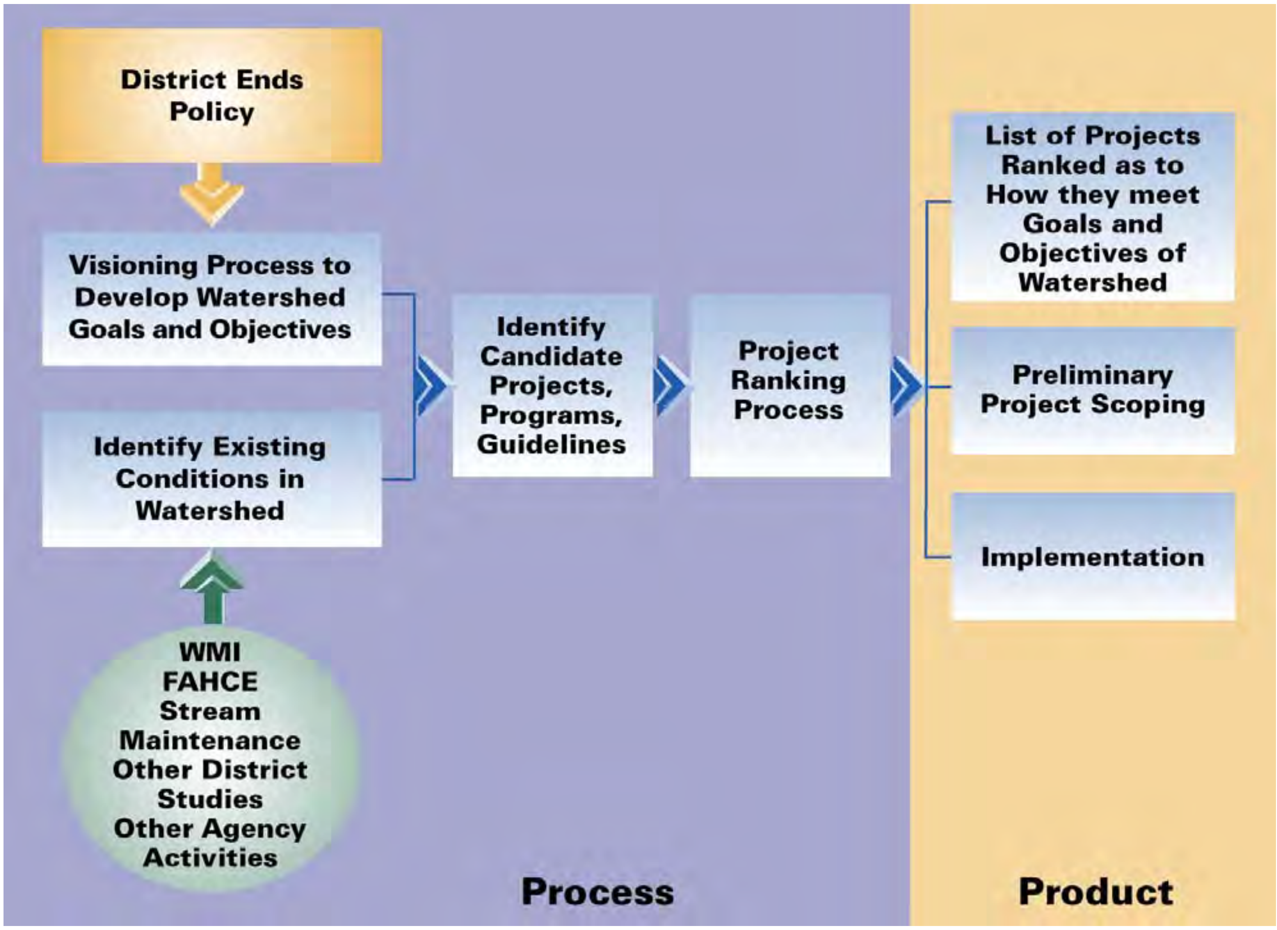
Source	Project Types	Avail. $	Contact
Watershed Protection and Flood Prevention Program	Projects related to watershed protection, flood prevention, water supply, water quality, erosion and sediment control, wetland creation and restoration, fish and wildlife habitat enhancement, and public recreation eligible for assistance. Projects are limited to watersheds containing more than 250,000 acres.	Typical projects entail $3.5 million to $5 million in federal financial assistance.	Headquarters: Department of Agriculture Natural Resources Conservation Service P.O. Box 2890 Washington, DC 20013-9770 (202) 720-3534 rcollett@usda.gov
Wildlife Conservation and Appreciation Program	Projects include identification of significant problems that can adversely affect fish and wildlife and their habitats, actions to conserve species and their habitats, actions that will provide opportunities for the public to use and enjoy fish and wildlife through non-consumptive activities, monitoring of species, and identification of significant habitats.	FY'00 $768,000 (estimated)	U.S. Department of the Interior U.S. Fish and Wildlife Service Division of Federal Aid 4401 North Fairfax Drive Arlington, VA 22203 (703) 358-1852
Flood Hazard Mitigation and Riverine Ecosystem Restoration Program	Focuses on identifying sustainable solutions to flooding problems by examining nonstructural solutions in flood-prone areas; program creates framework for more effective federal coordination of flood programs and will create partnerships with communities to develop solutions to flooding problems.	Federal share is 50 percent for studies, 65 percent for project implementation, maximum federal allocation of $30 million.	U.S. Army Corps of Engineers Planning Division 20 Massachusetts Avenue, NW Washington, DC 20314-1000 (202) 761-0115 harry.e.kitch@usace.army.mil
Flood Mitigation Assistance Program	Projects may include elevation; relocation or demolition of insured structures; acquisition of insured structures and property; dry floodproofing of insure structures; minor, localized structural projects that are not fundable by state or other federal programs (erosion-control and drainage improvements); and beach nourishment activities such as planting of dune grass.	FY00 $20 million (cap) (estimated)	Headquarters: Federal Emergency Management Agency Mitigation Directorate 500 C Street, SW, Washington, DC 20472 (202) 646-4621

Source	Project Types	Avail. $	Contact
Land and Water Conservation Fund Grants to States	May be used for state planning and for the acquisition and development of state and local facilities that provide active and/or passive recreation opportunities; recreation enhancement may be accomplished through he preservation of open space, estuaries, forests, wildlife and natural resource area.	Provided: Matching grants Funding Level: FY00 $40 million (state appropriations determined by formula)	U.S. Dept. of the Interior National Park Service, Recreation Programs Room MIB-MS 3622 1849 C Street NW Washington, DC 20240 (202) 565-1200 wayne_strum@nps.gov
Resources Agency Environmental Enhancement and Mitigation Program Grants	Highway landscaping and urban forestry, acquisition, restoration or enhancement of resource lands, acquisition and/or development of roadside recreation opportunities. Funding is allocated by the CTC and approved projects are administered by Caltrans. Agencies with approved projects are required to have an agreement with Caltrans.	Grants for projects are generally targeted at $250,000. However, there may be exceptions.	State Resources Agency EEM Program Coordinator 916.653.5656
California Department of Fish and Game Inland Fisheries Division Grant Program	Provides grants for fishery restoration work. Proposals are reviewed and scored by DFG fisheries specialists.	$265,000 will be available in FY 2000/2001.	Watershed Restoration Branch California Department of Fish and Game 1416 9th Street Sacramento, CA 95814 916/327-8845
State Water Resources Control Board Nonpoint Source Implementation Grant Program	Project address channel erosion, sedimentation due to construction and land development, hydrologic modification, physical habitat alteration, industrial activities, mineral extraction, excessive or poorly timed applications of pesticides and fertilizers, natural or engineered agricultural subsurface drainage, irrigation tailwater, re-suspension of pollutants by dredging, seawater intrusion, septic systems and on-site disposal, polluted urban runoff, livestock grazing, and acid mine drainage.	Funding available for award under this RFP is $9,200,000. Maximum amount that may be requested for implementing projects is $5,000,000. Requests below $50,000 will not be accepted.	Julie Bock State Water Resources Control Board Division of Water Quality 1001 I Street, 15th Floor, Sacramento, California, 95814

Chapter 14 Implementation

The Stream Stewardship Plan (Plan) is a strategic approach by which District Staff can adaptively respond to the dynamic nature of the Coyote Watershed while implementing the Board's Ends Policy. The previous chapters of the Plan have identified and documented the existing conditions within the watershed; developed the watershed vision, goals and objectives based on the District's Ends Policy; identified candidate programs, projects, and guidelines to help the watershed achieve the desired goals; and developed a ranking process that allows the projects to be compared from multiple perspectives as to how they met the goals and objectives. This work is summarized below in Figure 14-1.

FIGURE 14-1 PROCESS AND PRODUCTS


District Ends Policy
Visioning Process to Develop Watershed Goals and Objectives
Identify Existing Conditions in Watershed
WMI
FAHCE
Stream Maintenance
Other District Studies
Other Agency Activities
Identify Candidate Projects, Programs, Guidelines
Project Ranking Process
List of Projects Ranked as to How they meet Goals and Objectives of Watershed
Preliminary Project Scoping
Implementation
Process
Product

Chapter 14 discusses the interface of the Plan with the District's existing procedures for project implementation and also discusses strategies for the continued implementation of stream stewardship concepts within the District.

14.1 Organization of This Chapter

Chapter 14 describes the implementation strategies, and is organized into ten major sections:

Section 14.1 – Organization of This Chapter: Overview of how Chapter 14 is organized.

Section 14.2– Benefits of the Plan: Benefits of the Plan to District Staff, management and the general public.

Section 14.3 – Performance Measures: How the District will track the effectiveness of Plan implementation, and monitor its success.

Section 14.4 – Project Selection and Implementation: Identifies drivers for implementation and implementation methods.

Section 14.5 – Roles and Responsibilities: The roles of various District divisions and units in Plan implementation.

Section 14.6 – Partnering: Partnership or coordination with non-District agencies

Section 14.7– Public Outreach: How the District can provide outreach to Staff, stakeholders and the general public.

Section 14.8 – Summary of Projects: A summary of the candidate projects, programs, and guidelines developed by the Plan.

Section 14.9 – Plan Updates: Use of the Plan, and how it will be updated.

Section 14.10 – References: References used in the development of Chapter 14.

The organization of this Chapter is structured to be consistent in structure with CalFED's Watershed Program Plan Implementation Strategy.

14.2 Benefits of the Stream Stewardship Plan

This section summarizes the desired outcomes or benefits of the Plan, specifically in relation to how it will be used and the benefits it will provide for the Watershed Manager, District Staff, and in interaction with other agencies. The benefits shown are for the Coyote Watershed but would be applicable to other watersheds if the stream stewardship concept were expanded. The potential Plan benefits are sorted as follows:

- Outcomes benefiting the Watershed Manager;
- Outcomes benefiting District Staff; and
- Outcomes benefiting the District through District interaction with local stakeholders and the general public.

14.2.1 Benefits to the Watershed Manager

There are four primary desired benefits or outcomes of the Plan for the Watershed Manager:

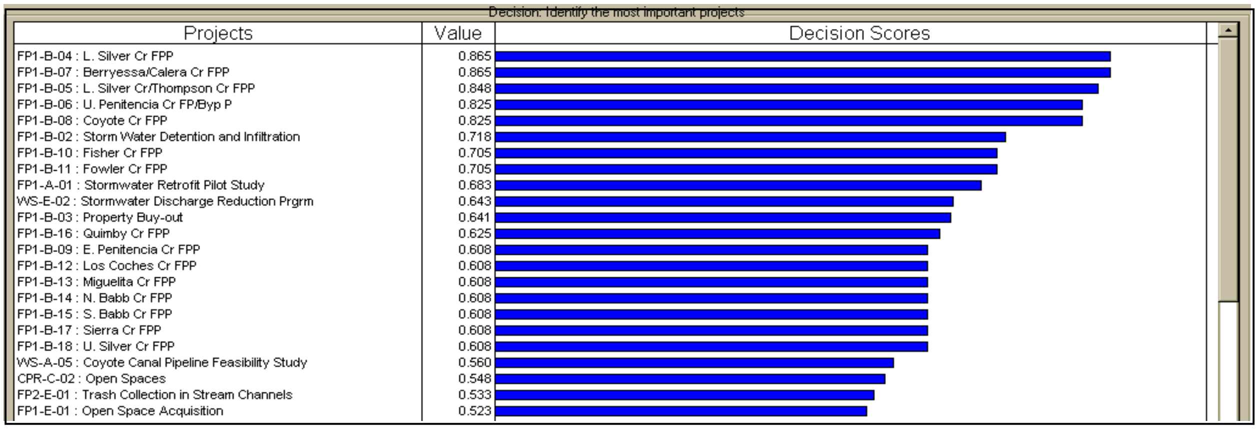
- Transform the Board's Ends Policy into specific objectives;
- Create a dynamic tool for project ranking and budgeting; and
- Provide an overview of planned and ongoing watershed activities of the District and other agencies.
- Provide a tool for adaptive management

A summary of these benefits follows.

Transform the Board's Ends Policy into specific objectives: The Ends Policy sets a vision for the District's activities in watershed management. The Plan team used the District's Ends Policy as the basis for developing the vision, goals, and objectives for the Coyote Watershed. These objectives will assist the Watershed Manager in identifying what projects will meet the Ends Policy, and documenting how the Watershed Management Division is working to implement the Ends Policy in the Coyote Watershed.

Create a dynamic tool for project ranking: The project ranking process, described in Chapter 12, provides a method to compare how candidate projects fulfill the identified goals and objectives of the watershed to make best use of the District's limited resources. The Plan clearly documents the project identification and ranking process for the District's Board, Senior Management, and other stakeholders, i.e. how each project ties into the goals and objectives of the Ends Policy, and why it is ranked higher or lower than other projects competing for funding.

FIGURE 14-2 EXAMPLE OF DECISION MODEL RANKING RESULTS



Decision: Identify the most important projects

Projects	Value	Decision Scores
FP1-B-04 : L. Silver Cr FPP	0.865	
FP1-B-07 : Berryessa/Calera Cr FPP	0.865	
FP1-B-05 : L. Silver Cr/Thompson Cr FPP	0.848	
FP1-B-06 : U. Penitencia Cr FP/Byp P	0.825	
FP1-B-08 : Coyote Cr FPP	0.825	
FP1-B-02 : Storm Water Detention and Infiltration	0.718	
FP1-B-10 : Fisher Cr FPP	0.705	
FP1-B-11 : Fowler Cr FPP	0.705	
FP1-A-01 : Stormwater Retrofit Pilot Study	0.683	
WS-E-02 : Stormwater Discharge Reduction Prgrm	0.643	
FP1-B-03 : Property Buy-out	0.641	
FP1-B-16 : Quimby Cr FPP	0.625	
FP1-B-09 : E. Penitencia Cr FPP	0.608	
FP1-B-12 : Los Coches Cr FPP	0.608	
FP1-B-13 : Miguelita Cr FPP	0.608	
FP1-B-14 : N. Babb Cr FPP	0.608	
FP1-B-15 : S. Babb Cr FPP	0.608	
FP1-B-17 : Sierra Cr FPP	0.608	
FP1-B-18 : U. Silver Cr FPP	0.608	
WS-A-05 : Coyote Canal Pipeline Feasibility Study	0.560	
CPR-C-02 : Open Spaces	0.548	
FP2-E-01 : Trash Collection in Stream Channels	0.533	
FP1-E-01 : Open Space Acquisition	0.523	

The ranking strategy can be quickly updated as conditions change within the watershed. The updated project rankings, coupled with the use of various performance measures, could be used by District management to help determine what projects to fund during the biannual budgeting process and help in preparation of Capital Improvement Programs (CIP). It will also assist staff in developing candidate project plans that are multi-objective in their focus, and would therefore rank higher in the overall ranking than a similar single-objective project.

Provide a comprehensive overview of planned and ongoing watershed activities of the District and other agencies: The District is involved in numerous organizations, committees and projects, but does not directly participate in all of the watershed activities occurring in the watershed. It can be difficult or time consuming for staff to obtain information about the wide variety of projects and programs undertaken by other agencies, who in turn may not be aware of the projects and policies of the District. This document could be used as an initial tool for communication with internal staff and external stakeholders, and provides external stakeholders with insight into District operations, projects, and future directions.

Provide a tool for adaptive management: Adaptive management is a concept followed by most managers but not officially documented as practice. It is the ability to modify decisions when new changes arise affecting the reasoning behind the original decision. This type of management begins with a clear set of goals and objectives, similar to those identified in Chapter 8. As conditions in the watershed change, the Plan can be updated so that resources are reallocated to ensure performance objectives are obtained. Without periodic updates indicative of adaptive management, projects could be implemented may no longer be required or that no longer match the Board's End Policy.

14.2.2 Benefits to District Staff

In addition to those identified for the Watershed Manager, there are three desired benefits or outcomes of the Plan for District Staff.

- Provide linkage between the roles of Watershed Management Division and Water Supply Management Division;
- Identify high-priority projects requiring outside funding assistance; and
- Provide an approach to partnering to implement multiple benefit projects.

These desired outcomes are described below:

Provide linkage between the roles of Watershed Management Division and Water Supply Management Division: The Watershed Management Division has the primary responsibility for implementing projects that reduce the potential for flood damages, promote environmental restoration, enhance healthy creeks, and provide additional recreational opportunities. Some of the water supplied to Coyote Creek originates from Anderson Reservoir, which is managed and operated by the Water Supply Management Division with a responsibility for providing potable water of suitable quality and quantity to Santa Clara County.

The Fisheries and Aquatic Habitat Collaborative Effort (FAHCE) is intended to resolve issues regarding water quantity for Coyote Creek and Upper Penitencia Creek, and ensure adequate water quantity at levels required for aquatic habitat. It is expected that FAHCE will require coordination of operations between the Water Utility Operations Division and Watershed Management Field Operations Staff. This coordination, coupled with the identification of projects, programs, and guidelines that meet the Plan goals and objectives, could provide operational and habitat benefits to areas of regulated streamflow. The end result is that some water supply operations would need to be integrated into the management of the watershed, and there would be a shared responsibility for coordination of these functions to meet the outcome of the FAHCE process.

Identify high-priority projects requiring outside funding assistance: The passage of Measure B provides the District with a 15-year source of funding for specified capital projects and programs that meet the District's Ends Policy. However, to construct or implement all of the projects required to fulfill the Ends Policy, or even all of the projects identified in this document, significant additional funding is required. District Staff track potential sources of funding from local, state, and federal sources. Identification of highly ranked projects will allow the District to target limited resources towards obtaining outside funding for these projects, increasing the chances that they will be constructed and potentially accelerating their implementation schedules.

Provide an approach to partnering to implement multiple benefit projects: Projects benefiting the watershed inherently have multiple stakeholders that receive the benefits provided by the project. However, mechanisms to share the costs or partner in project implementation are required to accelerate implementation, minimize implementation issues, and ensure sufficient resources are available to implement projects. The stream stewardship identifies opportunities for projects to meet multiple objectives from the beginning, rather than incorporating restoration or recreation into the project once it is underway. By identifying these opportunities prior to starting most projects, the District can minimize redesign and obtain community and stakeholder support for their project well in advance.

14.2.3 Benefits in District Interaction With Local Stakeholders and the General Public

There are three primary benefits of the Plan regarding the District's interaction with other government agencies, stakeholders, and the general public:

- Provide increased public involvement, outreach, and knowledge transfer to/from District and others during the Plan development and updating process;
- Identify watershed issues to be addressed; and
- Provide an overview of District's planned and ongoing activities in Coyote Watershed.

A summary of these benefits follows.

Provide increased public involvement, outreach and knowledge transfer to/from District and others: Historically, staff interaction with the public has been as the result of required public outreach, such as public EIR meetings, or through the Board. These settings are typically very structured in format, and one-on-one interaction and exploration of individual ideas and concerns is not always possible.

The creation of a work group to act as stakeholders for the development of the Plan has increased interaction with external stakeholders and given them a voice as to how a project or program activities are developed and ranked. Early and frequent participation typically results in an increased acceptance or ownership of the document. A recent effort through the WMI Flood Management Subgroup assisted in crafting project mitigation that was mutually agreeable to the participating stakeholders.

Identify watershed issues to be addressed: The District and stakeholders can have varying perspectives about the issues that require addressing in the Coyote Watershed. The participation of stakeholders in the Coyote Watershed Work Group has identified issues the District had not previously considered. The new issues were incorporated into the Plan and helped structure Chapters 8-12. These issues will also be incorporated into future projects, guidelines and activities.

Provide an overview of the District's planned and ongoing activities in the Coyote Watershed: The document summarizes current projects, policies, and activities underway by the District in the Coyote Watershed. These summaries will assist in letting other groups be proactive in coordination and minimizing overlap of activities. It will also help in the planning of future improvements by others. For example, if a trail is desired along a creek, it could be constructed with partial funding from the local jurisdiction at the same time as a flood protection project that has been identified and prioritized by the Plan.

14.3 Performance Measures

The District has established an Office of Performance Systems Management to establish and manage performance measures for project implementation. The project performance measures are quantitative in nature and are particularly valuable for evaluation of constructed projects. It is anticipated that as candidate projects are selected for implementation, they will be evaluated using the project performance measures already in place.

This section discusses potential performance measures for implementation, not of projects, but of the stream stewardship concept within the District. These performance measures are, by their nature, qualitative in nature and will help the District to gauge the achievements of the Plan. Table 14-1 provides a summary of suggested performance measures for the benefits identified in Section 14.2.

TABLE 14-1: PERFORMANCE MEASURES FOR PLAN DESIRED OUTCOMES

Desired Outcome/Benefit	*Performance Measures*
Transform the Board's Ends Policy Into Specific Objectives	• Improved structure of to meet one or more Ends Policies. • Documentation of the projects implemented to meet each Ends Policy.
Create a dynamic tool for project ranking and budgeting	• Use of organized, multi-objective ranking process for project evaluation and ranking • Reduction in time required in evaluating and ranking projects in the budgeting process. • Qualitative comparison of how projects meet the goals and objectives.
Overview of planned and ongoing watershed activities of the District and other agencies	• Improved staff knowledge of watershed activities and the roles of local stakeholders. • Reduction in the initial coordination times and coordination steps. • Improved public awareness of District activities. • Improved response to District outreach efforts
Linkage between the roles of Watershed Management and Water Supply Management Divisions	• Improved coordination between the two Divisions towards streamflow regulation
Identify high-priority projects requiring outside funding assistance	• Increase in external funding received. • Improved ranking and scheduling of important projects with funding limitations.
Approach to partnering to implement multiple benefit projects	• Improved coordination between local stakeholders to achieve multiple watershed benefits
Increase public involvement, outreach, and knowledge transfer to/from District and others during the Plan development and updating process	• Improved response to District outreach efforts. • Increased public participation in District project development.
Identify watershed issues to be addressed	• Improved focus of District resources to address current watershed issues.

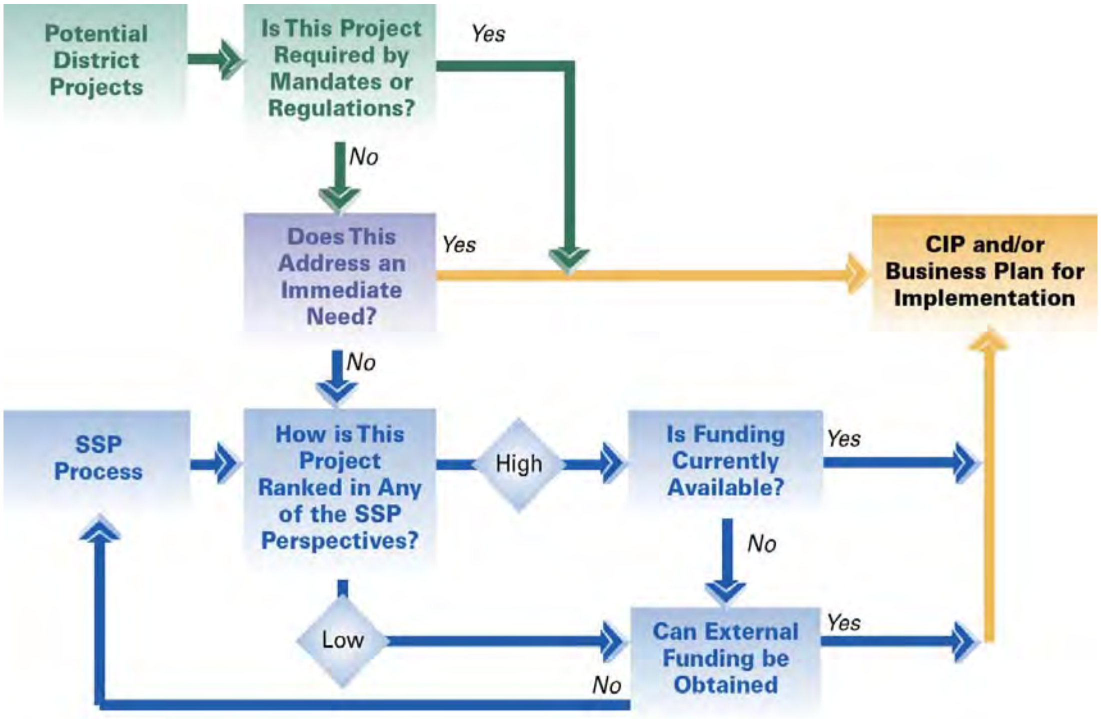
Specific performance targets for each performance measure could be established after baseline data is accumulated during the first few years of Plan implementation. These performance measures would be updated to adapt to changes in goals, objectives or watershed conditions. It is expected that a number of stakeholders would be required to submit information about the effectiveness of the District to meet various performance measurements.

14.4 Project Selection and Implementation

14.4.1 Project Selection

Selecting a project for implementation or deciding when to implement a project requires careful consideration. For the candidate projects in the Plan, the District could serve as the leader, partner or a supporter, depending on the nature of the project. In serving as a partner or supporter, the District would need to coordinate with other agencies in deciding which project is implemented first. Shared benefits and availability of funding would be among the main considerations. For District-led projects, there are several types of projects competing for available funding as shown in Figure 14-3.

FIGURE 14-3 PROJECT SELECTION PROCESS


Potential District Projects
Is This Project Required by Mandates or Regulations?
Yes
No
Does This Address an Immediate Need?
Yes
CIP and/or Business Plan for Implementation
No
SSP Process
How is This Project Ranked in Any of the SSP Perspectives?
High
Is Funding Currently Available?
Yes
No
Low
Can External Funding be Obtained
Yes
No

Some projects are required to meet existing or new mandates or regulations including safe drinking water, flood protection, and environmental regulations. A second type of project is one that meets an immediate need such as response to emergencies, requests from partner agencies, or urgent Board issues. Another category of projects is the candidate projects developed and ranked during the Plan process. This category currently includes only the projects developed by the Coyote Watershed Plan. As stream stewardship plans are developed for other watersheds, the list of candidate projects that have been developed and ranked in response to stream stewardship goals and objectives will expand to the other watersheds within the District.

The Board has traditionally desired a list of candidate projects to determine how best to expend the District's limited resources. To begin this process, Chapter 12 presents a list of candidate programs and projects from which the Board can select for implementation. This list will serve as a reference of candidate projects for staff or others to plan or implement in the future. It can also serve as a list of candidate projects for mitigation or restoration if required by regulatory agencies as a result of other District activities. The project ranking list also includes the first steps the District will undertake in the Coyote Watershed to begin addressing existing and proposed regulatory issues, such as compliance with stormwater runoff permits, TMDLs, Endangered Species Act requirements, and other requirements.

In some cases, the Plan has identified candidate programs rather than candidate projects. Implementation of the concept or objective represented by the candidate program will require more detailed evaluation and analysis by District Staff to move from a programmatic level to identification of specific projects. For example two programs, Property Buy-out and Open Space Acquisition ranked relatively high in the environment/habitat and community participation/recreation perspectives. Moving from a programmatic level to implementation of projects within these programs will require identification of the specific properties to be obtained and development of individual workplans for each identified project.

Availability of funding is another important issue for selecting a project for implementation of the Plan projects. It is anticipated that, barring other considerations, projects ranked more highly through the Plan ranking process will receive funding priority over lower ranked projects. If funding is not available for a candidate project, it would be returned to the Plan process for re-consideration during the next Plan update as described in Section 14.9 of this Chapter.

14.4.2 Project Implementation

Project implementation starts with a project workplan. The Candidate Project Detail Sheets included in Appendix C serve as a preliminary scoping document for preparation of the workplans for the programs and projects identified in the Plan.

Before a project is implemented, it must be included in one of the CIP's or fiscal year Business Plans developed for each of the District Divisions. After projects are selected for implementation, they will be implemented using the sound project management procedures and programs already in place within the District. The Plan is intended to link with the District's existing organization infrastructure as discussed in Section 14.5 and partnership opportunities described in Section 14.6. The Plan provides the initial identification and selection of candidate projects for implementation through the following unique features of the Plan:

- Compilation and update of watershed conditions
- Identification of multi-objective candidate projects to meet specific watershed needs in a manner that reflects the District Ends Policy
- Ranking process to compare how candidate projects fulfill the identified goals and objectives of the watershed

Implementation of a stream stewardship concept will lead to development of candidate projects that are designed from the beginning to achieve multiple objectives rather than having mitigation measures added after the project is already underway. Since the candidate projects developed as part of the Plan are multi-objective in nature, implementation will require the cooperation of multiple District Divisions, Units, and Staff, as well as numerous external stakeholders, regulatory agencies and jurisdictions.

14.5 Roles and Responsibilities

This section describes the roles and responsibilities of various Divisions within the District. The role of stakeholders in project implementation is described in Section 14.6. Not all of the projects identified in the Plan would be performed under the direction of the Watershed Manager. Some of the projects would require the Watershed Manager to be a participant in, and/or to contribute technical or fiduciary assistance to other District divisions performing the projects. The Watershed Manager is directly responsible for updating and implementing the Plan, but the following divisions would primarily be responsible for managing the implementation of specific projects meeting each goal, in coordination with the Watershed Manager.

TABLE 14-2: DISTRICT IMPLEMENTATION ROLES AND RESPONSIBILITIES

Goal	*District Division or Unit*
Water Supply	Water Utility Operations Division Capital Program Services Division
Flood Protection/Channel Maintenance	Capital Program Services Division Watershed Management Division
Environment/Habitat	Watershed Planning Unit
Community Participation/Recreation	Office of Public Affairs Watershed Planning Unit

There are multiple units and divisions of the District that are responsible for implementing projects led or supported by the District. These include the Watershed Management Division and the Office of Countywide Watershed Management. The responsibilities of these divisions/units are summarized below.

Watershed Management Division: This Division is responsible for managing field operations, planning and capital projects relating to District watershed activities and will participate as a leader or technical supporter for implementation of portions of all non-Water Supply District projects occurring in the Coyote Watershed. The Coyote Watershed Manager is responsible for the implementation of all flood protection, District capital projects, stream maintenance and environmental mitigation in the watershed. To support the Watershed Manager, there are two separate units, the Watershed Field Operations Unit and Watershed Program Support Unit, whose responsibilities are summarized below.

Watershed Field Operations Unit: This Unit is responsible for all stream maintenance, including projects identified as a part of the Stream Maintenance Program. It also is responsible for managing budget development, coordinating District emergency response services and monitoring safety procedures.

Watershed Program Support Unit: This unit is responsible for providing engineering and environmental support to the Watershed Field Operations Unit, oversight of the capital programs in the watershed, coordination with cities and customers on projects and watershed issues, preparation of watershed business plans & budgets, and land development interface with Community Projects Review Unit.

Office of Countywide Watershed Management: This office centralizes District-wide watershed planning, policy or regulatory issues, such as programmatic issues or projects with broad District-wide implications. There are five separate units, which are summarized below.

Watershed Planning Unit: This unit is responsible for policy implementation, developing Stream Stewardship Plans, basin-wide outreach plans, Clean Safe Creeks and Natural Flood Protection implementation plan, Flood Insurance Liaison Study, Waterways Management Model, Community Rating System, coordination with the WMI, CEQA and provide policy & guideline development, training, and compliance. This unit would lead implementation of guidelines.

Countywide Watershed Programs Unit: This unit is responsible for basin-wide programs like Urban Runoff, HAZMAT emergency response, pollution prevention, CIP elements, program management, TMDL development, outreach implementation, and project-specific planning. This unit also helps implement O&M activities that would be implemented throughout the District, and would lead implementation of candidate O&M activities.

Community Projects Review Unit (CPRU): This unit is responsible for Ordinance 83-2 administration and enforcement, land use planning and project review, daily permit review, and land use liaison and guidance services. This office would lead efforts to update new development policies and coordinate with other jurisdictions regarding land use issues.

Ecological Services Unit: This new unit, comprised of biologists formerly in the Environmental Resources Management Unit, is responsible for environmental data management, biological surveys, mitigation monitoring; providing support to CIP, support for District-wide programs; and field monitoring of fisheries, vegetation, general biology, ESA, and water quality. It would also lead efforts to prepare Habitat Conservation Plans, Wetlands mitigation or other habitat restoration projects.

Regulatory Compliance Program: This program is responsible for permit administration, permit tracking, monitoring compliance, permit compliance auditing, reporting to agencies, negotiating basin-wide permits, and assisting with negotiation of watershed-specific permits.

Other Divisions: Some selected projects may require the cooperation and participation of District Units or Divisions that do not report to the Watershed Manager. These projects include any modification of reservoir operations, such as those that could be proposed as a part of the Fisheries and Aquatic Habitat Collaborative Effort or the purchase of Cherry Flat Reservoir. The maintenance and operation of these facilities is the responsibility of the Water Supply Management Division, but these releases directly impact watershed operations.

14.6 Partnering

Most of the candidate projects and activities will require partnership or coordination with non-District agencies. Appendix C include a preliminary identification of these agencies. It is anticipated that the District role on these projects will either be as a:

- **Leader**: Manager or takes responsibility for project or program. This term does not preclude the District from partnering with other agencies.

- **Partner**: District is active participant in the project or program. It insinuates that the District is not the lead agency.
- **Supporter**: District provides technical or monetary assistance only.

Successful implementation of candidate projects may require partnerships with local stakeholders with shared priorities. These partnerships can either be monetary, functional or formal. The City of San Jose, City of Milpitas and Santa Clara County will be critical local partners in the implementation of Coyote Watershed projects. Through partnerships, the District could potentially expedite projects led by either the District or others, and minimize work overlap and unforeseen project changes.

Funding agreements, cooperative work agreements, and memorandums of understanding between the District and outside agencies will be required to ensure successful completion and implementation of projects and policies where the District is either a partner or supporter. The implementation of these agreements potentially will require modification of District procedures, response times, and design standards and specifications in order to coordinate with the schedules of local jurisdictions. For example, there are no formal District standards for the design of new stormwater outfalls to creeks to ensure that these standards are consistent with those of the City of San Jose, Santa Clara County, City of Milpitas, and other local jurisdictions outside the Coyote Watershed.

The Board and District Management are responsible for determining the scope of District involvement in Watershed Activities. For each project in which there are multiple beneficiaries, analysis to determine the benefits and costs to the District and others would be required to set funding arrangements and assign responsibilities. This type of partnership between government entities is vital, because a project might not be as beneficial to construct if funded by just one party. When multiple parties are involved with funding and implementation, costs are reduced for the District, resources are expanded, and opportunities to increase outreach and public acceptance are created.

14.7 Public Outreach

Public Outreach strategies are based on the concept of proactive community outreach. Outreach is an integral part of project implementation and building community support for District projects and programs, and is a required when public environmental review of projects is required. Obtaining this input first requires that the public be informed about the Plan and CWP activities through development of a clear and concise public outreach program. A sound outreach strategy based on the right research and message, followed by timely execution will culminate in the community understanding, accepting, and embracing of the Plan.

The document was developed through a community based visioning process, incorporating the views of local stakeholders, the District and general public. Successful implementation and updates of the Plan will build upon efforts developed during the development of the Plan, and utilize these stakeholders to ensure the goals and objectives, ranking criteria and candidate projects, programs and guidelines are applicable to current conditions.

Acceptance of the Plan by the community and the District will require both targeted and general outreach. It is imperative to contact community leaders and decision makers early in the process to identify concerns and establish communication. A number of forums can target stakeholders for technical public outreach, such as the WMI or the East Zone Advisory Committee. Efforts should be made to coordinate meetings, agendas and information between the various committees so community leaders have equal and similar access to information and opportunities to provide input to the Coyote Watershed projects. The Coyote Watershed Manager can serve as the direct contact to respond to inquiries and specific concerns for specific projects and programs, and delegate responses to staff as appropriate. The Watershed Planning Unit would also provide staff and planning support in these committees.

14.8 Summary of Candidate Projects

Table 14-3 at the end of this chapter summarizes the candidate programs and projects developed during the Plan. More information on each project can be found in the Project Detail Sheets in Appendix C. The Project Detail Sheets also will serve as a preliminary scoping document for development of workplans for projects selected for implementation. Table 14-3 includes the following information for each project:

- Project number and name
- Relative ranking for each project from the four perspectives used in Chapter 12
- Current status of the implementation for each project
- District’s role as leader, partner, or supporter
- Location of the project, whether site-specific, watershed-specific or countywide
- Candidate guidelines that may be needed for implementation of specific projects

Candidate guidelines were developed in Chapter 10 and serve as a method to formalize, document, and clarify the District’s roles and responsibilities towards project implementation, particularly when partnering with other agencies. Most of the candidate guidelines from Chapter 10 are referenced in Table 14-3 in association with a particular project. Chapter 10 also recommended development of three candidate guidelines that would state the District’s policies towards new residential, commercial, and industrial developments. These were listed as ND-1, 2, and 3 in Chapter 10.

Other candidate guidelines that are not project-specific are those that pertain to implementation of the Stream Stewardship Plan itself. The Watershed Managers should further evaluate the candidate Plan guidelines if stream stewardship concepts are expanded to other watersheds within the District. Three candidate Plan Implementation guidelines were recommended, as follows:

TABLE 14-4 CANDIDATE GUIDELINES FOR PLAN IMPLEMENTATION

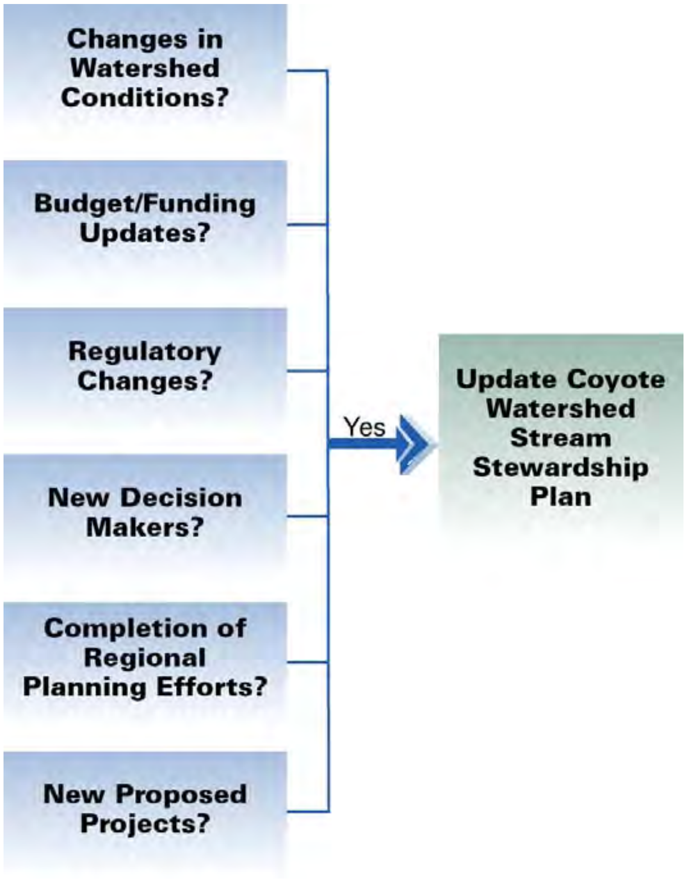
Candidate Guideline		*Description*
PI-1	Management approach to Plan implementation	Develop an integrative, adaptive management approach to implementing the Plan including identifying recommended changes, implementing changes, monitoring benefits, and adjusting the program if needed to reach the intended target.
PI-2	Availability of sensitive data	Identify District's procedures for making sensitive data available to the public. Such data may include shape files showing sensitive habitat data, habitat availability and species distribution data.
PI-3	Funding Plan Programs and Projects	Set conditions for potential partnerships that can be developed with local agencies or other groups to develop collaborative grant applications and acquire joint grant funds. It would also establish procedures for determining which Plan projects would be submitted for funding when grant funding sources are identified.

14.9 Plan Updates

The Plan is intended to be a reference and guidance document for the District to facilitate efficient long-term realization of the Board's Ends policy in the Coyote Watershed. It is meant to be a dynamic document that is adaptive and able to address changes in watershed conditions, and assist the Watershed Manager in identifying candidate project meeting the goals and objectives of the watershed. A number of triggers for updating the Plan have been identified, which include the following:

- Changes in watershed conditions based on review of additional data;
- Regional efforts that start the implementation of the projects identified
- Completion of regional watershed planning efforts such as the WMI Watershed Action Plan reports and Coyote Watershed Assessments;
- Regulatory changes;
- Budget cycle updates;
- Adaptive Management; and
- Major changes in the funding picture

FIGURE 14-4 TRIGGERS FOR PLAN UPDATES


Changes in Watershed Conditions?
Budget/Funding Updates?
Regulatory Changes?
New Decision Makers?
Completion of Regional Planning Efforts?
New Proposed Projects?
Yes
Update Coyote Watershed Stream Stewardship Plan

The Coyote Watershed Plan is also a guide towards expansion of the stream stewardship concept to the other watersheds within the Santa Clara Basin. Stream stewardship across the basin will help fulfill the vision of the District's Ends Policy and result in watersheds that not only provide a healthy and safe environment for residents and visitors, but also enhance the quality of life in Santa Clara County.

Table 14-3 Summary of Candidate Projects and Ranking Results

Project	Rank in SSP Perspective				Status	District Role	Location	Candidate Guidelines
	FP	EH	CPR	Balanced				
WS-A-05 : Coyote Canal Pipeline Feasibility Study	20	17	16	9		Leader	SS	FP-3
WS-C-01 : Water Quality Mgt Plan	29	5	17	8		Leader	CW	WS-1, WS-3, WS-4
WS-C-02 : Instream Groundwater Recharge	32	50	12	29		Partner	CW	FP-3
WS-D-02 : ID of Uses in Coyote Watershed/BP Update	34	4	4	6		Partner	WS	WS-4, EH-4
WS-E-02 : Stormwater Discharge Reduction Program	10	19	33	11		Partner	CW	WS-5
WS-F-01 : TMDL/Diazinon Management Program	55	29	52	47		Partner	CW	WS-3
FP1-A-01 : Stormwater Retrofit Pilot Study	9	40	35	21		Leader	SS	WS-5
FP1-A-02 : Land-use Decision Seminars	44	41	10	30	In Progress	Leader	CW	WS-5
FP1-B-01 : Hydrologic Data Collection Network	59	38	53	53		Leader	CW	FP-3
FP1-B-02 : Storm Water Detention and Infiltration	6	3	32	4		Leader	CW	WS-5
FP1-B-03 : Property Buy-out	11	30	2	2		Leader	CW	FP-1, FP-2
FP1-B-04 : L. Silver Cr Flood Protection Project	1	52	18	17	In Progress	Leader	SS	FP-1
FP1-B-05 : L. Silver Cr/Thompson Cr Flood Protection Project	3	58	42	34	In Progress	Leader	SS	FP-1
FP1-B-06 : U. Penitencia Cr FP/Bypass Project P	4	54	21	19	In Progress	Leader	SS	FP-1
FP1-B-07 : Berryessa/Calera Cr Flood Protection Project	2	53	19	18	In Progress	Leader	SS	FP-1
FP1-B-08 : Coyote Cr Flood Protection Project	5	55	22	20	In Progress	Leader	SS	FP-1
FP1-B-09 : E. Penitencia Cr Flood Protection Project	13	60	56	59		Leader	SS	FP-1
FP1-B-10 : Fisher Cr Flood Protection Project	7	56	25	39		Leader	SS	FP-1
FP1-B-11 : Fowler Cr Flood Protection Project	8	57	26	40		Leader	SS	FP-1
FP1-B-12 : Los Coches Cr Flood Protection Project	14	61	57	60		Leader	SS	FP-1
FP1-B-13 : Miguelita Cr Flood Protection Project	15	62	58	61		Leader	SS	FP-1
FP1-B-14 : N. Babb Cr Flood Protection Project	16	63	59	62		Leader	SS	FP-1
FP1-B-15 : S. Babb Cr Flood Protection Project	17	64	60	63		Leader	SS	FP-1
FP1-B-16 : Quimby Cr Flood Protection Project	12	59	27	50		Leader	SS	FP-1
FP1-B-17 : Sierra Cr Flood Protection Project	18	65	61	64		Leader	SS	FP-1
FP1-B-18 : U. Silver Cr Flood Protection Project	19	66	62	65		Leader	SS	FP-1
FP1-C-01 : Flood Map Update & Insurance	45	42	11	31	In Progress	Leader	CW	
FP1-E-01 : Open Space Acquisition	23	1	14	5	Partial	Partner	CW	WS-5, FP-1, FP-2, EH-1
FP2-A-01 : Multi-Objective Design Study	65	23	28	51		Partner	CW	EH-1, EH-4
FP2-B-01 : Coyote Creek Mitigation	51	25	47	43	In Progress	Leader	SS	
FP2-B-02 : Stream Channel Restoration	26	11	36	22		Leader	CW	FP-2, EH-4
FP2-C-01 : Coyote Creek Sediment Control	66	31	63	58	In Progress	Leader	SS	
FP2-D-01 : Salt/Freshwater Stream Connection Program	52	26	48	44		Leader	SS	EH-1, EH-4
FP2-E-01 : Trash Collection in Stream Channels	22	13	3	3	In Progress	Partner	CW	EH-1
EH-A-01 : Stream and Wetland Revegetation Project	27	12	37	23		Leader	CW	FP-3, EH-1, EH-4
EH-A-02 : Habitat Protect., Enhancement & Restoration Plan	41	7	38	27	In Progress	Leader	CW	FP-2, EH-1, EH-4
EH-A-03 : Palassou Ridge Restoration	46	14	43	35	In Progress	Leader	SS	
EH-A-04 : Invasive Species Control Program	35	9	5	7		Leader	CW	EH-1, EH-3
EH-B-01 : Coyote Watershed Cr Restore/Inventory Study	40	6	34	26	In Progress	Partner	WS	EH-1
EH-B-02 : SRA Habitat Conservation/Augment Program	31	22	41	33		Leader	CW	FP-3, EH-1, EH-4
EH-B-03 : Habitat Conservation Plan	50	24	46	42	In Progress	Leader	CW	EH-1, EH-3, EH-4
EH-C-01 : Fish and Frog Screens	64	51	55	66		Partner	CW	EH-1, EH-4
EH-C-02 : Native Warmwater Fish Program	30	21	40	32		Leader	CW	EH-1, EH-4
EH-C-03 : Salmonid Recovery Program	54	28	51	46		Partner	CW	EH-1, EH-4
EH-D-01 : Fish Passage Improvements	53	27	50	45		Leader	CW	FP-3, EH-4
EH-F-01 : Biological Corridor/Habitat Land Acquisition	42	8	39	28		Partner	CW	WS-5, FP-2, EH-1, EH-3
EH-F-02 : Salt Pond Reoperation	47	15	44	36		Leader	CW	EH-1
EH-G-01 : Wetland Mitigation Project	48	16	45	37	Partial	Leader	CW	EH-2
CPR-A-01 : Homeless Encamp Minimization Program	49	48	13	38		Supporter	CW	CP-1
CPR-A-02 : Public Safety Improvements	58	44	31	49		Partner	CW	CP-1
CPR-B-01 : Public Access Sanitation Improvements	43	20	24	24		Partner	CW	
CPR-C-01 : New Recreational Trails	33	49	30	41		Partner	CW	CP-2
CPR-C-02 : Open Spaces, Trails & Parks MP	21	2	1	1	In Progress	Partner	CW	CP-2
CPR-C-03 : Removal of Intrusive Recreational Feat.	25	18	20	12		Partner	CW	
CPR-C-04 : Upper Penitencia Ponds Recreation Area	28	37	23	25		Partner	SS	
CPR-D-01 : K-12 Watershed Education Programs	39	35	9	16		Partner	CW	CP-3
CPR-E-01 : Community Watershed Ed. Programs	38	34	8	15		Partner	CW	CP-3
CPR-F-01 : Non-Native & Exotic Species Ed.	37	33	7	14		Partner	CW	CP-3
CPR-G-01 : Community Watershed Stew. Program	36	32	6	13		Partner	CW	CP-3
A-1 : Firebreaks Program	57	43	29	48		Leader	CW	
A-2 : Maintenance Work Order Manual	62	46	65	56		Leader	CW	
A-4 : Facilities Assets Mgmt System	63	47	66	57		Leader	CW	
A-5 : Stream Morph. Class & Hierarchal Inventory	56	36	49	52		Leader	CW	
A-6 : Coyote Watershed Training Program	61	45	64	55		Leader	WS	

Abbreviations

CW	Countywide
WS	Watershed Specific
SS	Site Specific

14.10 References

1. Apex Strategies, Community Outreach Plan for the Coyote Watershed, December 2000.
2. CalFED Bay-Delta Program Ecosystem Restoration Program, Draft Stage 1 Implementation Plan, August 2001.
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6. Prop 13 RFP, website, http://www.swrcb.ca.gov/prop13/docs/chapter6_rfp.doc.
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9. Santa Clara Valley Water District, Clean, Safe Creeks and Natural Flood Protection, A 15-Year Plan to Implement Measure B, Implementation Plan – Final, June 2001.
10. Santa Clara Valley Water District, District Performance Measures – Draft, Office of Performance Systems Management, August 2001.
11. Santa Clara Valley Water District, Governance Policies of the Board of Directors, December 2000.

The following section summarizes available information on the principal characteristics of stream channels within the Coyote Watershed. The following information is included for each Stream Characterization:

- Brief description of creek
- Locations of the 1% floodplain
- General description of Land Use adjacent and nearby creek
- Known fish ladders/drop structures of stream blockages
- Known riparian/vegetation
- Candidate projects for implementation
- Linkages to current of planned projects
- Tributaries
- Types of conveyance channels

Notes:

- Abbreviations and acronyms utilized in this chapter can be referenced in the Abbreviations Section of the Plan.
- All left and right bank notations are indicated looking upstream
- Stationing begins at mouth of creek and increases upstream. Actual stationing is estimated.

References:

1. Maps of flood control facilities and limits of 1% flooding, SCVWD, Flood Control Planning Division and the Engineering Services Drafting Section, June 1993.
2. GIS Databases for Land Use, vegetation, channel types and soils, SCVWD.

Arroyo Aguague

Arroyo Aguague is located entire in the upland areas of eastern San Jose. Draining into Upper Penitencia Creek, this creek flows South from Cherry Flat Reservoir, then rotates northward along the outside of the urban service area to Upper Penitencia.

Floodplain

There are no areas near located within the 1% floodplain:

Land Use

The land use surrounding Arroyo Aguague is largely open space.

Fish Ladders/Drop Structures/Blockages

None identified

Riparian/Vegetation

Much of the creek banks contain riparian woodland areas.

Candidate Projects

- Purchase of Cherry Flat Reservoir and surrounding lands

Linkages

- FAHCE

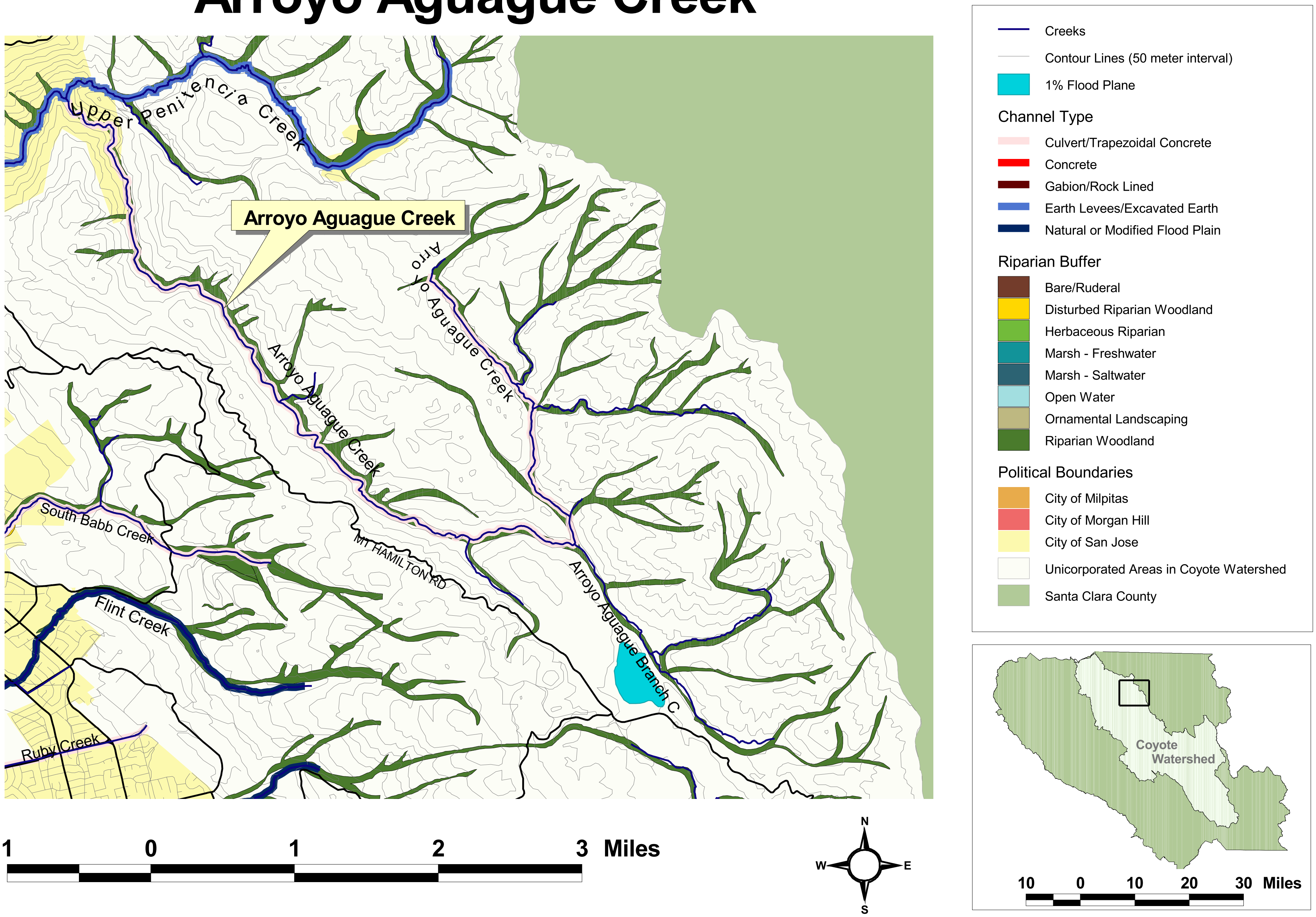
Tributaries

Arroyo Aguague Branches A, B, C, D, E & F

TABLE C-1: ARROYO AGUAGUE CONVEYANCE

Stationing		Creek Characterization
Beginning	**End**	
The entire Arroyo Aguague and its six branches are mapped as natural, through the main stem flows through a reservoir.		

Arroyo Aguague Creek



Berryessa Creek

Berryessa Creek is located in northeast Santa Clara County between the Calera and Penitencia Creek subwatersheds. It flows westerly from an elevation of 2500 feet into its confluence at 3 feet above Mean Sea Level with Lower Penitencia Creek. The creek drains a watershed area stretching approximately 7.2 miles east-to-west, 5.4 miles north-to-south within San Jose, Milpitas and unincorporated hillsides above both cities.

Floodplain

Generally, Berryessa Creek has low capacity to convey flood flows within the Urban Service Area. The entire channel in this area, with the exception of Sierra Creek, is not adequate to convey the design flows. Sediment deposition is common in areas with mild slopes, which further reduces an already limited capacity.

The following areas are located within the 1% floodplain:

- The area generally bordered by Abel, Jacklin and Escuela Parkway to the north of Berryessa Creek
- Between Calaveras and Wrigley Way to the west of Berryessa
- Between Montague and I-680, north of Berryessa
- Both sides of Berryessa between I-680 and Piedmont Road.
- Virtually the entire lengths of the Sierra, Sweigert and Crosley creek tributaries to Berryessa are enveloped by the 1% floodplain.

Land Use

The area adjacent to Berryessa Creek is zoned primarily industrial in Milpitas, with patches of residential development. In San Jose, Berryessa Creek begins to meander through residential areas.

Fish Ladders/Drop Structures/Blockages

- Streamflow gage No. 64 is located at approximately Station 90+00.
- Combination confluence and drop structure at Piedmont Creek confluence (1 foot)
- Drop structure at Yosemite Drive (3 foot)
- Drop structure north of Ames Avenue (2 foot)
- Drop structure south of Ames Avenue (2 foot)
- Drop structure at Muirwood Court (2 foot)
- Drop structure just east of I-680 (2 foot)
- Drop structure just North of Cropley (2 foot)
- Three two-foot drop structures between Cropley and Messina Drive

Riparian/Vegetation

The upper portions of the watershed have primarily native plants of oak, madrone and bay trees with underlying brush and grass.

Candidate Projects

NA

Linkages

- Berryessa/Calera Creek Flood Protection Project
- Berryessa Creek – Levee Repair
- BART extension along UPRR alignment @ Abel Court
- Road widening – Montague Expressway
- Stream Maintenance Program – Milpitas Blvd to Calaveras, Cropley to Morrill, d/s Sierra Creek, u/s and d/s Piedmont Creek

Tributaries

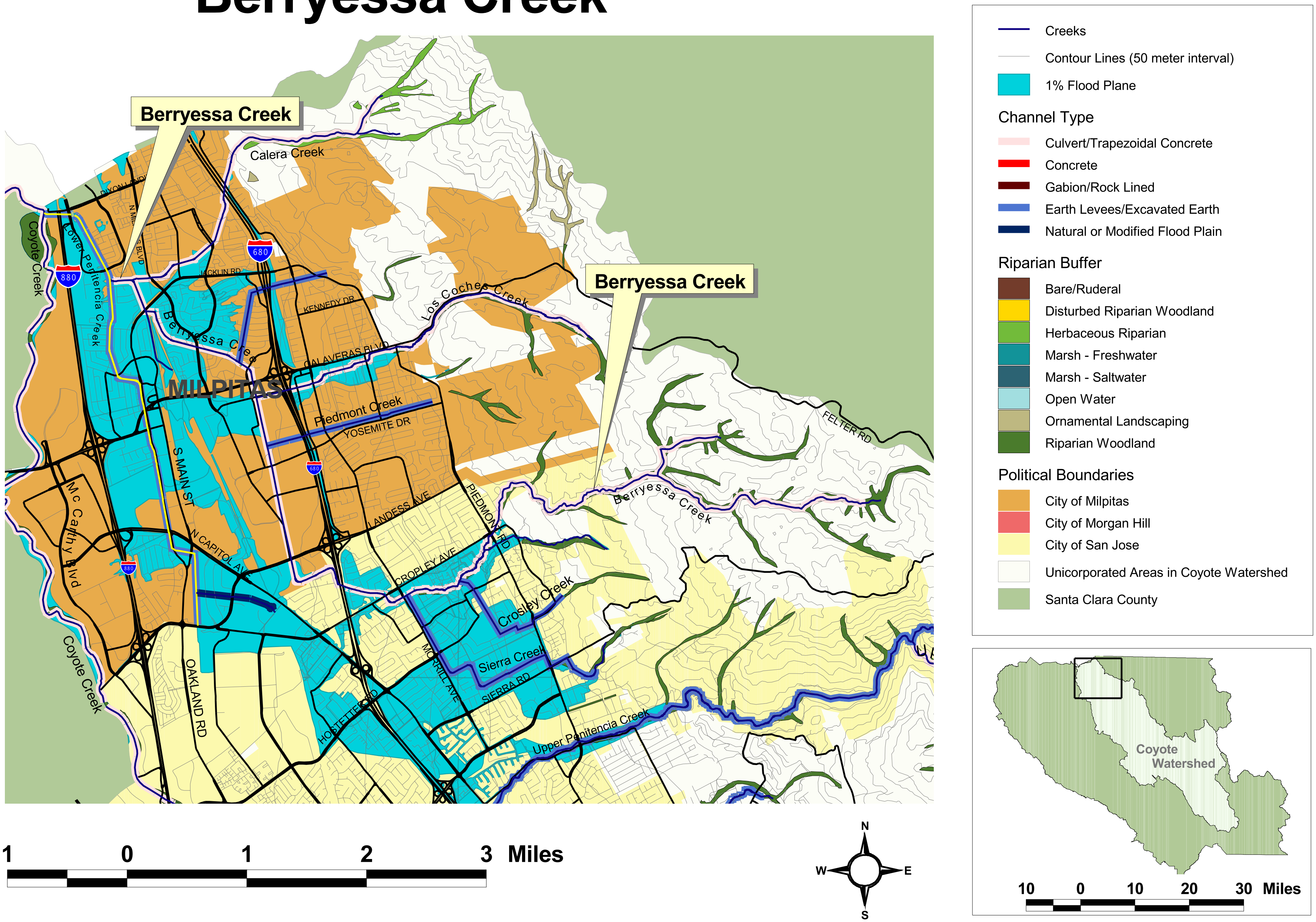
Tularcitos Creek
Los Coches Creek
Piedmont Creek
Sierra Creek
Crosley Creek
Sweigert Creek
Los Buellis Creek

TABLE C-2: BERRYESSA CREEK CONVEYANCE

Stationing		Creek Characterization
Beginning	End	
00+00	30+00	LT (b = 32 ft)
30+00	85+00	EXC (b = 44 ft)
85+00	86+00	QUAD (11 ft X 9 ft) – under Calaveras Boulevard
86+00	123+00	EXC (b = 12 ft)
123+00	138+00	EXC (b = 5 ft)
138+00	140+00	Triple RCB 11 ft X 9 ft – under Ames Avenue
140+00	152+00	EXC (b = 4 ft)
152+00	165+00	EXC (b = 5 ft)
165+00	166+00	DBL RCB (11 ft X 9 ft) – under Montague Expressway
166+00	175+00	EXC (b = 5 ft)

Stationing		Creek Characterization
Beginning	End	
175+00	179+00	CT (b = 5 ft)
179+00	202+00	EXC (b = 10 ft)
202+00	205+00	EXC (b = 20 ft) – under I-680
205+00	222+00	CT (b = 14 ft)
222+00	223+00	DBL RCB (10 ft X 8 ft) – under Cropley Avenue
223+00	232+00	EXC (b = 14 ft)
232+00	234+00	DBL RCB (10 ft X 8 ft) – under Morrill Avenue
234+00	235+00	RCB (11 ft X 6 ft)
235+00	236+00	EXC (b = 6 ft)
236+00	238+00	CU (20 ft X 11 ft)
238+00	286+00	MFP
286+00	290+00	RCB (12 ft X 7 ft) – under Cropley and Piedmont Avenues
290+00	510+00	NAT

Berryessa Creek



Calera Creek

This creek originates in the hills overlooking Milpitas, and drains an 1,850 acre watershed into Berryessa Creek near the intersection of San Andreas Drive and Pescadero Street, adjacent to the Union Pacific Railroad. Approximately 500 acres of this watershed is developed, with the rest comprising steep, hilly undeveloped terrain in the hillside. The latest design flow calculations show the 1% flood flows to reach 750 cfs at the Berryessa Creek confluence, and 700 cfs at I-680.

Floodplain

There is one area adjacent to Calera Creek within the 1% floodplain: between Station 65+00 and 70+00 adjacent to I-680. This flood plain extends south in a narrow band along the eastern edge of I-680 to Calaveras Boulevard. No other areas with the Calera Creek subwatershed are located within the 1% floodplain. However, a remapping of the Calera Creek area was recently completed by FEMA, so this information may need to be updated with this information, which was not immediately available.

Land Use

The urban service area (USA) extends from the mouth of Calera Creek to approximately Station 82+00. Within the USA, land uses along Calera Creek range are predominantly single-family dwellings (low-to-moderate density), with one Industrial Park at the confluence of Berryessa and Calera Creeks, one retail subcenter, two school sites and two parks adjacent to the creek. All areas past Station 82+00 are currently zoned as “Hillside Very Low Development - 1 DU/10 acres” by the City of Milpitas.

Fish ladders/Drop structures/Sediment removal

- Energy dissipator east of Arizona Avenue

Riparian Vegetation

In the upland areas outside of the City of Milpitas, the creek corridor is bordered primarily by Riparian Woodlands upstream of Station 88+00. There are no mapped vegetation or riparian areas within the City of Milpitas urban service area.

Candidate Projects

None identified

Linkages

- Berryessa/Calera Creek Flood Control Project
- Interstate 680 widening
- Milpitas Trail Master Plan
- Stream Maintenance Program, u/s Escuela Parkway, u/s UPRR

Tributaries

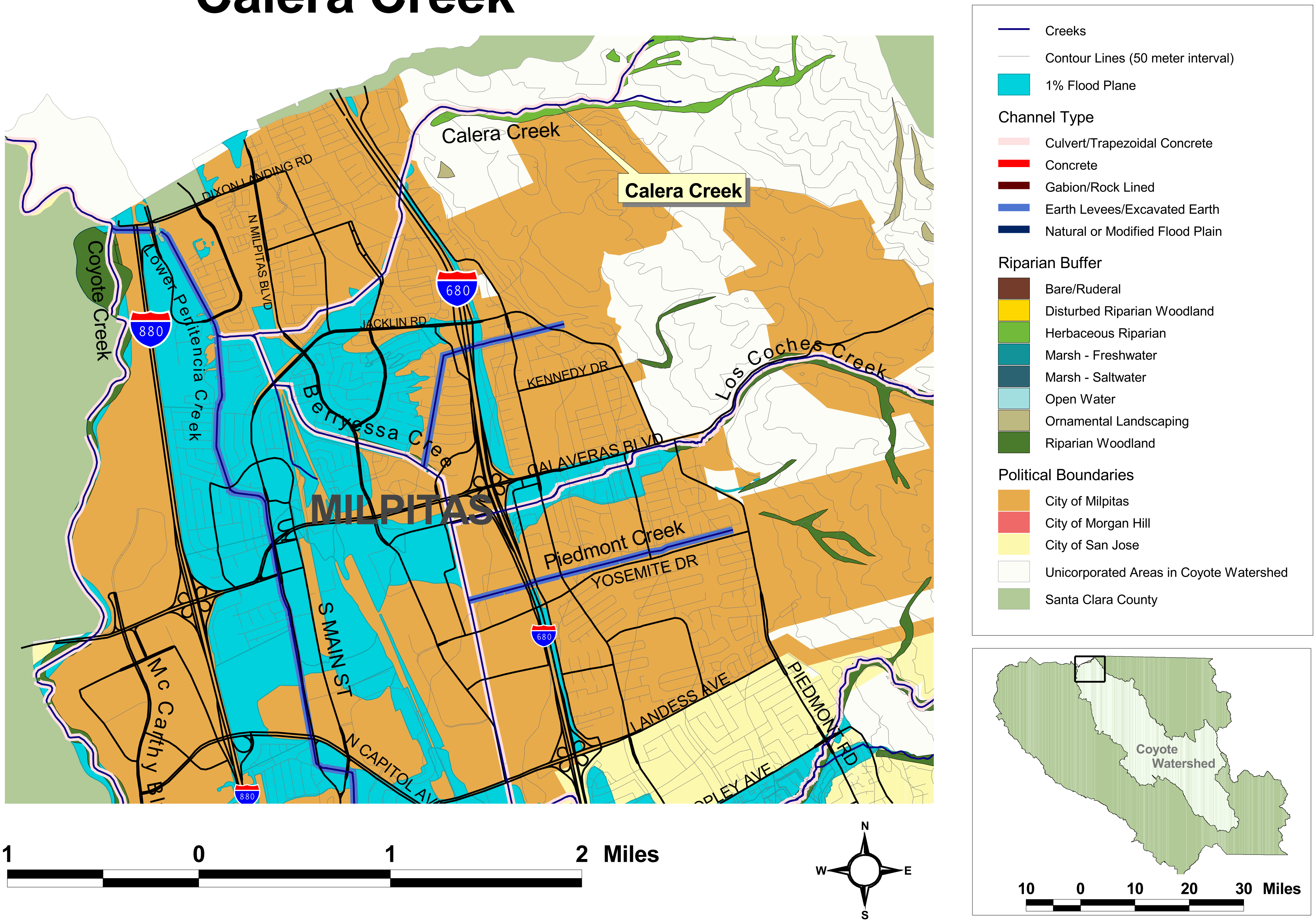
No named tributaries of Calera Creek, through there is a south branch of Calera Creek in the upland areas overlooking Milpitas that merge with the main stem at Station 142+00.

TABLE C-3: CALERA CREEK CONVEYANCE

Stationing		Creek Characterization
Beginning	End	
0+00	1+50	Double RCB (11 ft X 6 ft) under UPRR
1+50	8+00	CU (b = 20 ft)
8+00	10+00	DBL RCB (10 ft X 7 ft) under N. Milpitas Blvd.
10+00	20+00	EXC (b = 20 ft)
20+00	22+00	DBL RCB (8 ft X 8 ft) under Arizona Drive
22+00	30+00	EXC (b = 10 f, TW = 46 ft)
30+00	40+00	MFP (b = 75 ft)
40+00	41+70	RCB (12 ft X 4 ft) under Escuela Parkway
41+70	~52+00	MFP (b = 10 ft)
~52+00	62+00	EXC (b = 3 ft)
62+00	70+00	RCB (10 ft X 8 ft) and SAC (b = 10 ft) under I-680
70+00	165+50	NAT (b = 3 ft)*

* Small Calera Creek tributary flows into main stem at 142+00 (all natural)

Calera Creek



Cochran Channel

Cochran Channel flows through the eastern edge of Coyote Valley on the eastern side of Highway 101, and drains into Coyote Creek.

Floodplain

The following areas are located within the 1% floodplain:

- Between the Coyote Creek confluence and station 9+00

Land Use

The area surrounding Cochran Channel is largely prime agricultural farmland and open space area.

Fish Ladders/Drop Structures/Blockages

None identified.

Riparian/Vegetation

There are areas of riparian woodland vegetation near the Coyote Creek confluence

Candidate Projects

None identified

Linkages

- Open Space area

Tributaries

None

TABLE C-4: COCHRAN CHANNEL CONVEYANCE

Stationing		Creek Characterization
Beginning	End	
Unidentified		

Coyote Creek

Floodplain

Includes all of the areas identified in the other creek cutsheets

Land Use

All types of land use are adjacent to Coyote Creek – from commercial to recreational to industrial.

Fish Ladders/Drop Structures/Blockages

The following barriers to passage were identified by the FAHCE process.

Station	Location	Type
595+00	Hwy 237 crossing	channel diversion
600+00	Hwy 237	washington baffles fishway
728+00	1/50	Weir (SCVWD trap station)
810+00	Ridder Park Driver crossing	critical raffle
820+00	RM 6.9 RR trestle crossing	Weir/concrete slab
1053+00	RM 11.2 (Hwy 280 crossing)	critical riffle
1068+20	R/R crossing	critical riffle
1079+00	RM 11.7	concrete rubble
1083+20	RM 12.7	critical riffle
1145+00	RM 12.7	concrete rubble
1154+90	Senter/Rock Spring	Low flow vehicle crossing
1200+00	Tully Rd/Quinn Rd	concrete rubble
1253+00	Dadis/Lone Bluff	Debris Jam
1288+00	Capitol Expressway	Debris Jam
1299+27	Singleton Road Crossing	Flow over crossing
1530+00	Ford Road percolation pond	Gravel Dams/ladders
1684+00	Coyote Perc/Metcalf	Fish ladder/perc dam
2210+00	Anderson Dam	CMP chutes
2225+00	Anderson Dam	Reservoir dam
2234+13	Base Anderson Dam	Base of Anderson Dam

Riparian/Vegetation

All types of riparian habitat are located along Coyote Creek. There are efforts underway to complete the Coyote Creek Park, to allow for riparian habitat and recreation along the length of Coyote Creek. Within the area near Milpitas and Northern San Jose, this area is largely already developed, though there are maintenance roads parallel to the creek.

Candidate Projects

- Instream recharge facilities at the Ford Road Percolation Ponds
- Construction of 7.8 mile Coyote Canal bypass in Coyote Valley
- Streamflow augmentation with recycled water in confined zone
- Streamflow augmentation with advanced treated recycled water in unconfined zone
- Fish passage improvements
- Retirement of Standish Dam – retrofit as mitten crab trapping station
- Restoration opportunities near Ogier ponds
- Revegetation/trash clean-up opportunities
- Land acquisition within Coyote Greenbelt area and Coyote Creek Park Trail areas

Linkages

- Road widening – Berryessa Avenue
- Road widening – Old Oakland Road (completed)
- Road widening – Story Road
- Road widening – Tully Road
- Road widening – Montague Expressway
- BART extension – Schallenberger Rd @ UPRR alignment
- VTA Tasman East Light Rail Extension @ Tasman (under construction)
- Interstate 880 widening (Montague to Highway 101)
- Highway 101 widening (Bernal to Cochrane)
- Rock Springs Flood Protection Project
- South Bay Mobile Home Park Flood Wall
- Coyote Creek Outdoor Classroom
- Coyote Creek Revegetation Project
- Fisheries and Aquatic Habitat Collaborative Effort
- SCVURPPP projects (Four total)
- Coyote Watershed Integrated Pilot Assessment
- City of San Jose – Environmental Enhancement
- Stream Maintenance Program – u/s Lower Penitencia Confluence

Tributaries

All creeks within the Coyote Watershed

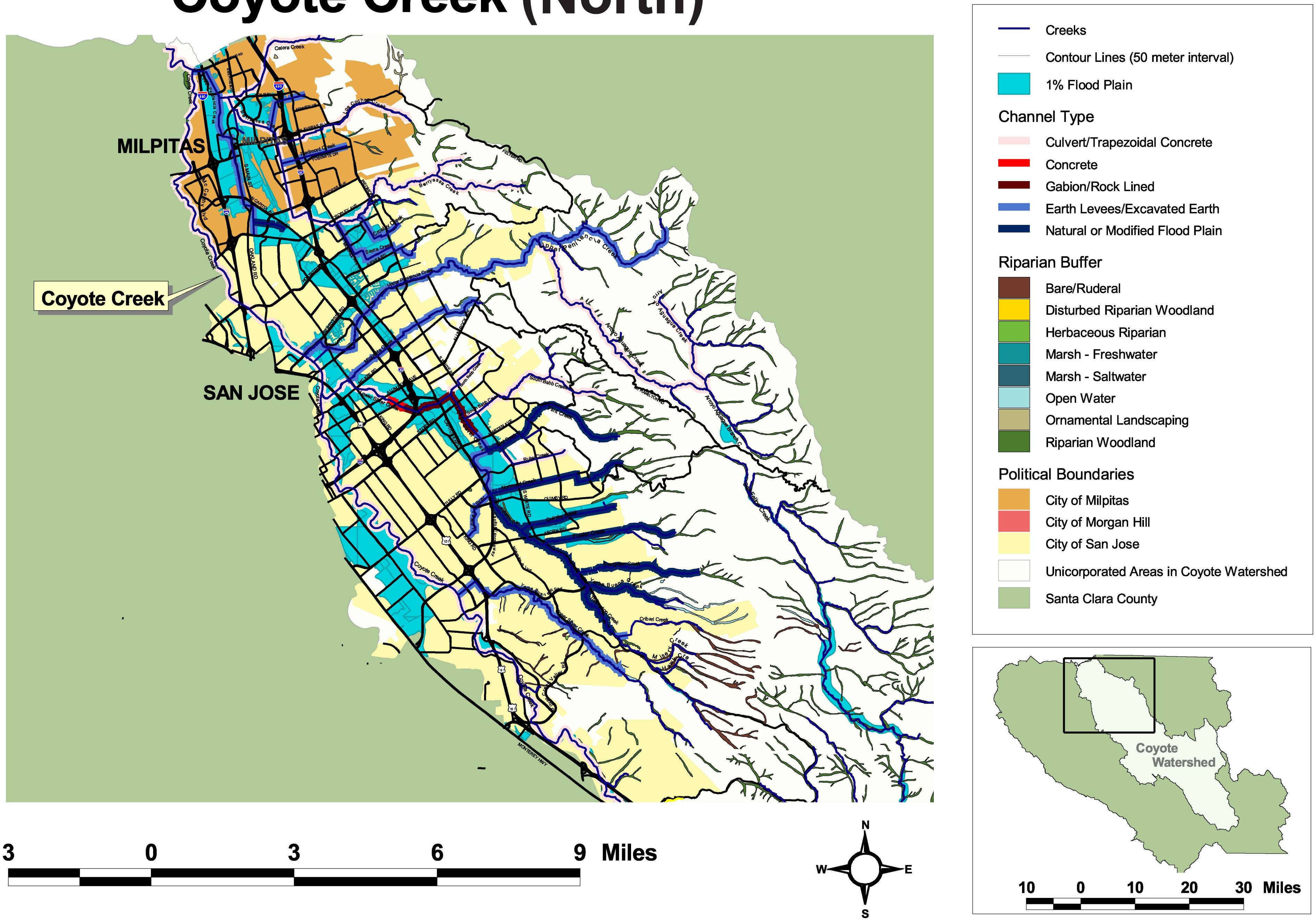
TABLE C-5: COYOTE CREEK CONVEYANCE

Stationing		Creek Characterization
Beginning	**End**	
0+00	523+00	Nat (b = 50 ft)
523+00	563+00	NAT w/Earth Levees and Earth Bypass (b = 55 ft)
563+00	589+00	Earth Levees (b = 45 ft)
589+00	601+00	Earth Levees (b = 35 ft)
601+00	645+00	Earth Levees (b = 45 ft)
645+00	728+00	Earth Levees (b = 35 ft)
728+00	787+00	EXC (b = 105 ft)
787+00	805+00	Varies (b = 122 ft)
805+00	843+00	Varies/NAT (b = 101 ft)
843+00	893+00	Varies/NAT (b = 65/263 ft)
893+00	1013+00	Varies/NAT (b = 172/237 ft)
1013+00	1045+00	Varies/NAT (b = 50/100 ft)
1045+00	1105+00	Varies/NAT (b = 90/350 ft)
1105+00	1151+00	NAT (b = 90 ft)
1151+00	1206+00	Varies/Nat (b = 65/108 ft)
1206+00	1230+00	Varies/Nat (b = 135/245 ft)
1230+00	1256+00	NAT (b = 93 ft)
1256+00	1289+00	Varies/Nat (b = 90 ft)
1289+00	1368+00	Varies/Nat (b = 123 ft/197 ft)
1368+00	1523+00	Varies/Nat (b = 100/300 ft)
1523+00	1550+00	Varies/Nat/Perc Pond Area (b = 300 ft)
1550+00	1650+00	Nat (b = 300 ft)
1650+00	1730+00	Varies/Nat/Perc Pond Area (b = 300 ft)
1730+00	1762+00	Varies/Nat (b = 470 ft)
1762+00	1763+00	CMPS Quad Arch (5.5 ft X 3.6 ft X 25 ft)
1763+00	1815+00	Varies/Nat (b = 470 ft)
1815+00	1824+00	Varies/Nat (b = 200 ft)

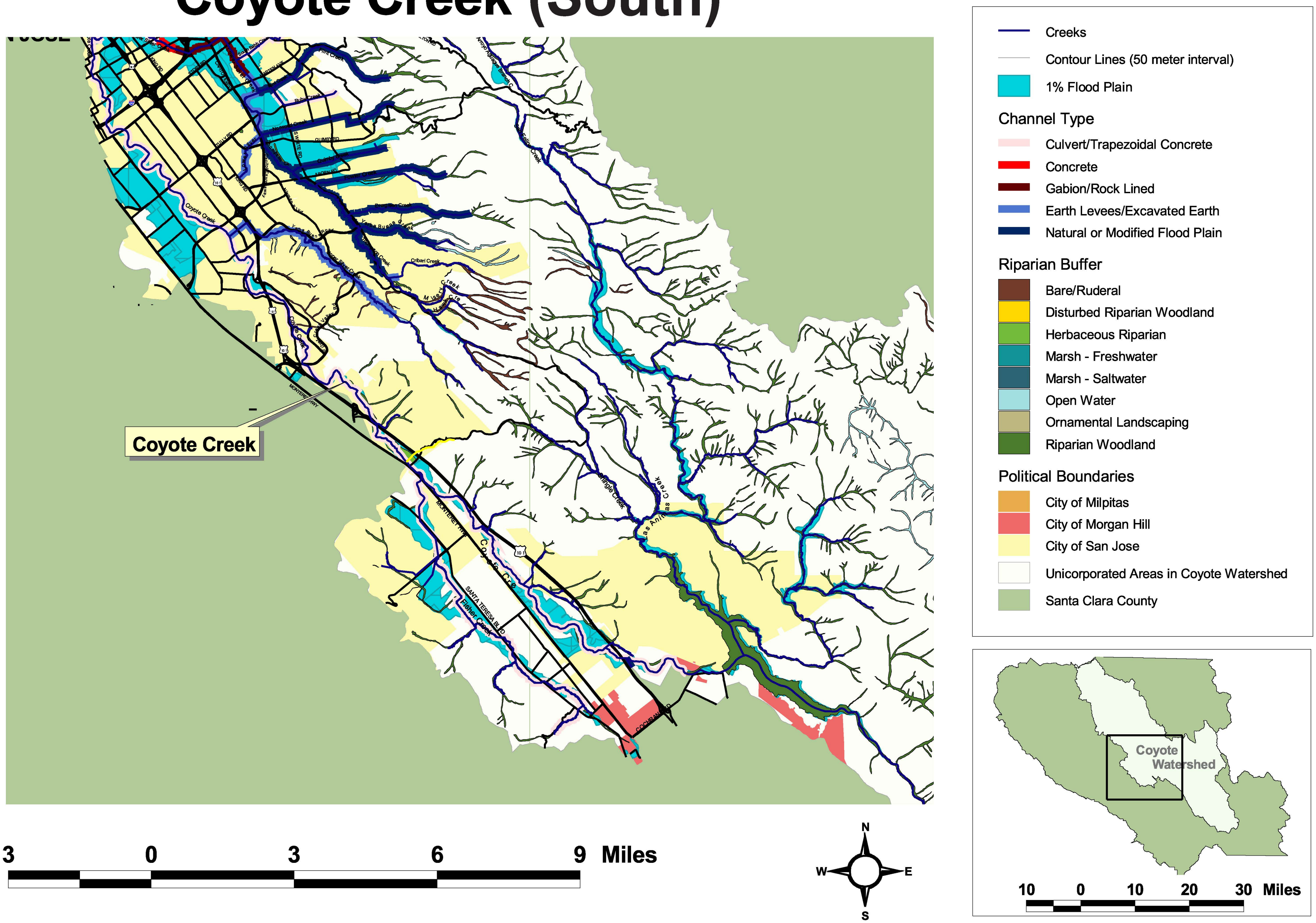
Stationing		Creek Characterization
Beginning	End	
1824+00	1848+00	Varies/Nat (b = 500 ft)
1848+00	1880+00	Varies/Nat (b = 800 ft)
1880+00	2079+00	Varies/Nat (b = 600 ft)
2079+00	2100+00	Varies/Nat (b = 400 ft)
2100+00	2110+00	Varies/Nat (b = 300 ft)
2110+00	2150+00	Varies/Nat (b = 30/150 ft)
2150+00	2225+00	Nat (b = 12 ft)
2225+00		Base of Anderson Dam

- Streamflow gauge #58 is located near Station 1446+00
- Streamflow gauge #8 is located near Station 1787+00
- Streamflow gauge #11 is located near Station 2129+00
- Streamflow gauge #9 is located near Station 2215+00

Coyote Creek (North)



Coyote Creek (South)



Cribari Creek

Cribari Creek is located in the Evergreen area of San Jose, and flows westerly out of the upland areas into Thompson Creek.

Floodplain

The following areas are located within the 1% floodplain:

- None

Land Use

Land uses around Cribari Creek have recently been modified with the development of the Villages Golf and Country Club, which largely surrounds Cribari Creek.

Fish Ladders/Drop Structures/Blockages

None identified

Riparian/Vegetation

Adjacent to Cribari Creek is a significant amount of ornamental landscaping, largely associated with the development of the golf course.

Candidate Projects

None identified

Linkages

None identified

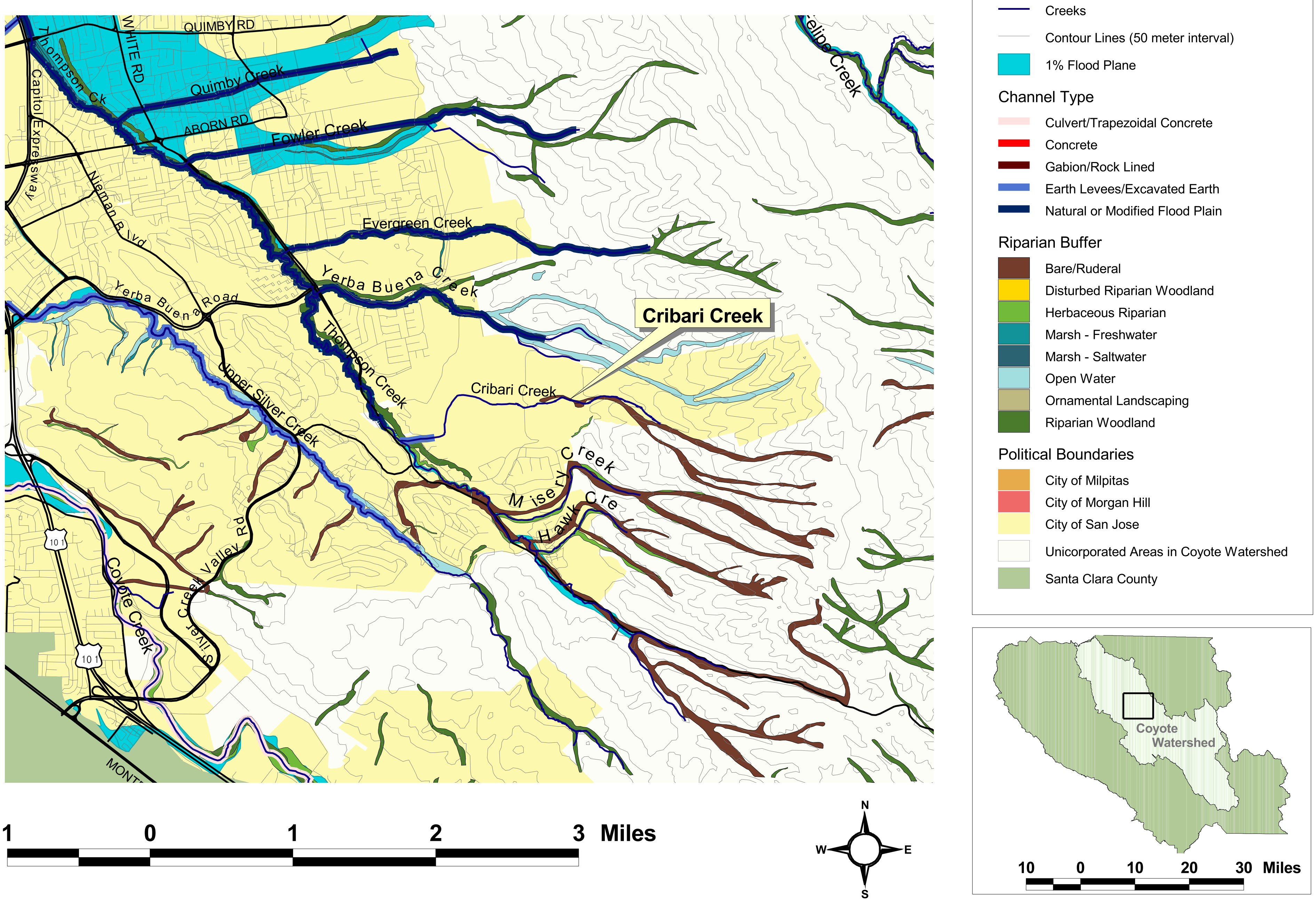
Tributaries

None

TABLE C-6: CRIBARI CREEK CONVEYANCE

Stationing		Creek Characterization
Beginning	End	
Not available, though near the confluence the creek is contained within a 66-inch RCP pipe		

Cribari Creek



Evergreen Creek

Design flow of 500 cfs at Thompson Creek confluence.

Floodplain

No 1% floodplain is currently mapped, but significant development has occurred within the subwatershed, and this should be remapped to verify its absence.

Land Use

According the 1993 maps of flood control facilities, few developments existed in the subwatershed, save for Evergreen Valley College. Through development of the Evergreen Specific Plan, virtually the entire area north of Evergreen Creek has been converted to single-family homes. Areas south of the creek have been reserved for the college and open space, though during the year 2000, a commercial retail center is being built at the intersection of Yerba Buena and San Felipe.

Fish Ladders/Drop Structures/Blockages

- None

Riparian/Vegetation

There is Oak Sycamore riparian vegetation between confluence and station 100+00, with mostly riparian vegetation between that location and the headwaters. This might need remapping due to recent development of the Evergreen Specific Plan area.

Candidate Projects

- Remap 1% flood plain to verify that new development has not impacted creek conveyance

Linkages

- Potential trail along Evergreen Creek – Linear Park is existing.
- Area of new development – Evergreen Creek flows through the Evergreen Specific Plan area

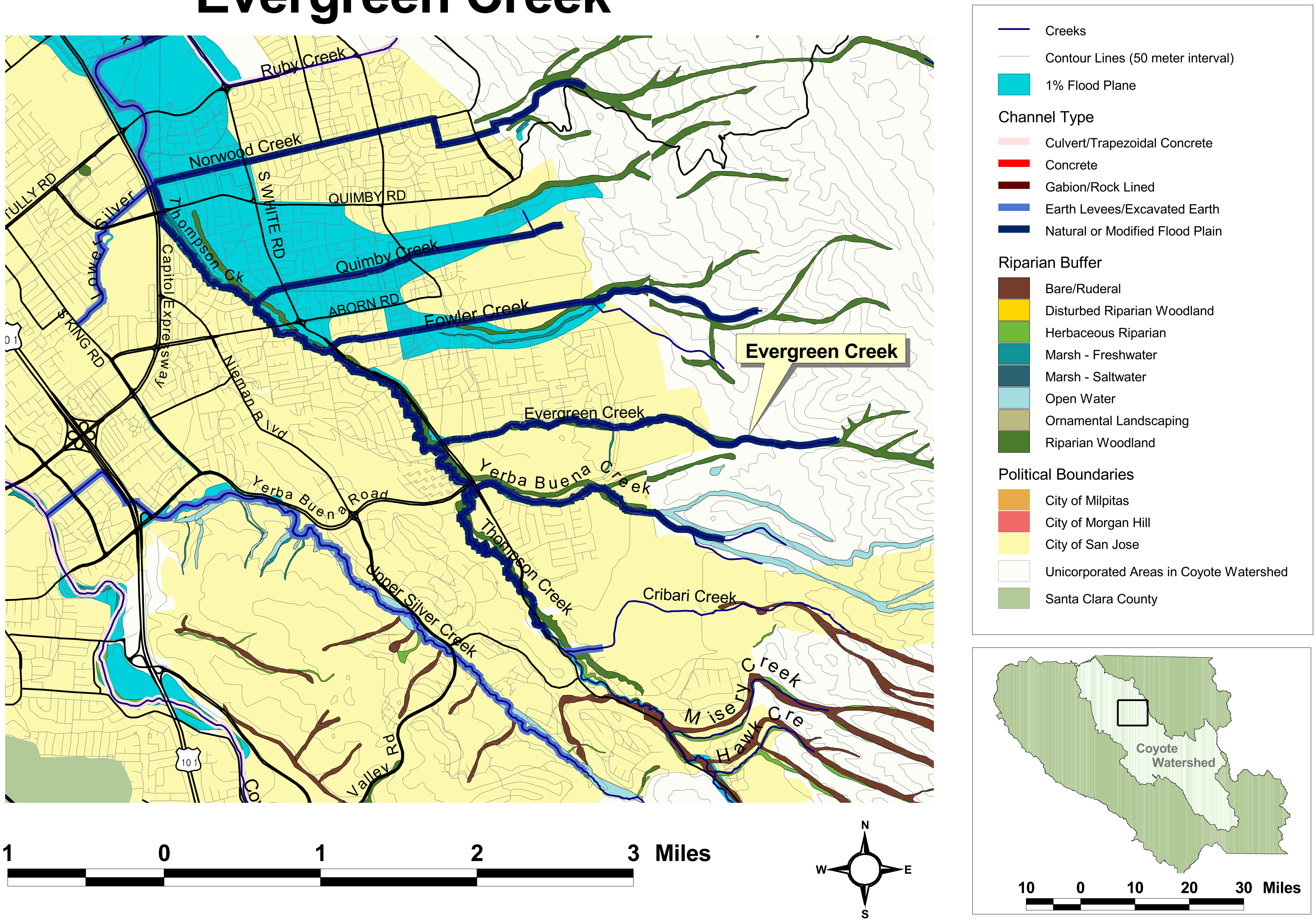
Tributaries

None

TABLE C-7: EVERGREEN CREEK CONVEYANCE

Stationing		Creek Characterization
Beginning	End	
00+00	147+50	Natural

Evergreen Creek



Fisher Creek

Fisher Creek originates just north of Morgan Hill, and flows northwest to Tulare Hill, and along Highway 101 to the Coyote Creek confluence. The total subwatershed area is about 15 miles, with approximately two-thirds comprising the valley floor, and the rest consisting of moderately steep hillsides. The design 1% flood flow is 3,700 cfs at the Coyote Creek confluence.

Floodplain

Most of the area south and west of Station 40+00 is located within the 1% floodplain, along with the area just to the south of the creek between the confluence and Station 40+00. The 1% floodplain is largely located within the valley floor west of Santa Teresa Boulevard, but also includes large portions of the southern Coyote Valley and the most areas bordering the creek. The bulk of the floodplain in Northern Coyote Valley is located in an area proposed to be turned over to the District as a proposed land grant by Cisco Systems. A current project of the Coyote Watershed Program is to study how the District should respond to this proposal.

Land Use

Cisco Systems, Xilinx, Apple and others have identified the entire North Coyote Valley Area for campus industrial/business park development. These developments will require extensive consideration of flood management issues, and a master plan for meeting the District's Ends Policies for flood control should be considered for this area. Presently, most of the land is used for agricultural purposes, but is slated for development in the future. There will likely be an urban reserve set aside as open space in the southern Coyote Valley area. Additionally, residential development is proposed in the central Coyote Valley area.

Fish Ladders/Drop Structures/Blockages

- Streamflow gage number 10 is located near the confluence of Creek and Coyote Creek.

Riparian/Vegetation

Between the Coyote confluence and station 60+00, there are riparian woodlands, with freshwater marshes predominant near the northern Coyote Valley area. Further upstream near station 111+00, more Cottonwood Willow vegetation becomes common, with some disturbed riparian vegetation between station 210+00 and the terminus.

Candidate Projects

- Proposed Cisco regional flood detention facility
- Improve flood capacity to meet 1% flood flows between Coyote Creek and LOJ
- Fish ladder at Coyote confluence

Linkages

- The Coyote Valley Research Park and Calpine are proposing to develop along Fisher Creek.

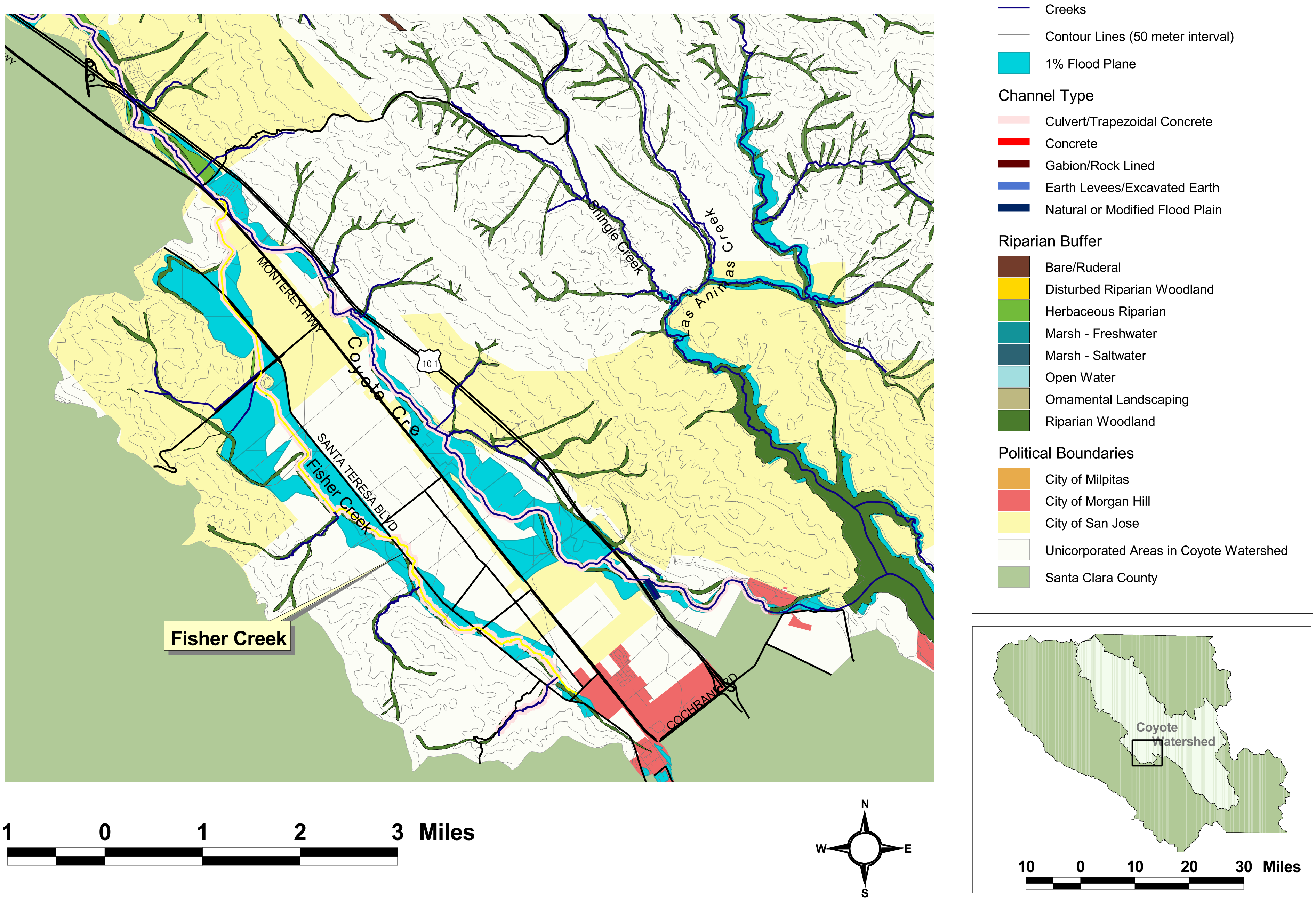
- Cisco is also proposing to turn over a 200+ acre parcel of land to the Santa Clara Valley Water District for construction of a regional flood detention facility for North Coyote Valley.

Tributaries
Branches A, B, C, D & E of Fisher Creek
Willow Springs Creek

TABLE C-8: FISHER CREEK CONVEYANCE (INCLUDING BRANCHES A, B, C, D & E)

Stationing		Creek Characterization
Beginning	End	
00+00	02+00	RCB – 9 ft X 7 ft, 12 ft X 7 ft (under Monterey Hwy and Highway 101)
02+00	03+50	RCB – 26 ft X 13 ft (under UPRR)
03+50	50+00	Earth Levees, b=10 ft
50+00	53+00	RCB (b = 12 ft) under Santa Teresa Boulevard
53+00	80+00	Earth Levees (b = 10 ft)
80+00	125+00	EXC (b = 4 ft)
125+00	140+00	EXC (b = 12 ft)
140+00	150+00	EXC (b = 15 ft)
150+00	170+00	EXC (b = 8 ft)
170+00	180+00	EXC (b = 8 ft)
180+00	196+50	EXC (b = 5 ft)
196+50	205+00	NAT (b = 5 ft)
205+00	268+80	NAT (b = 2 ft)
268+80	345+00	NAT (b = 1.5)
345+00	369+00	NAT (b = 1 ft)
369+00	380+30	NAT
00+00 (A)	74+50 (A)	All natural – A intersects main stem at Station 100+00
00+00 (B)	26+30 (B)	All natural – B intersects branch A nearStation 32+00
00+00 (C)	30+00 (C)	All natural – C intersects main stem at Station 107+50
00+00 (D)	48+50 (D)	All natural – D intersects main stem at Station 196+50
00+00 (E)	57+50 (E)	All natural – E intersects main stem at Station 268+80

Fisher Creek



Flint Creek

Flint Creek is located in San Jose between Babb and Ruby Creeks, and flows from the eastern hillsides overlooking San Jose into Silver Creek. The creek has a 1% flood flow of 480 cfs at the Silver Creek confluence.

Floodplain

The 1% flood plain is currently mapped along Flint Creek between the Lower Silver Creek confluence and Pleasant Hills Golf Course

Land Use

Most of the land use around Flint Creek is residential, with one park and one golf course adjacent to the creek corridor.

Fish Ladders/Drop Structures/Blockages

- Sediment control facility is located near Mr. Pleasant Road and Flint Creek Drive intersection, and drains watershed above station 60+00 on the North Fork of Flint Creek.
- No known fish ladders or drop structures

Riparian/Vegetation

Native oak and madrone trees populate the hillsides, with an underlying brush and grass.

Candidate Projects

- Revegetation/trash clean-up opportunities

Linkages

- Raising/Lowering of Lake Cunningham weir
- Stream Maintenance Program – Flint Debris Basin u/s Mt. Pleasant Road

Tributaries

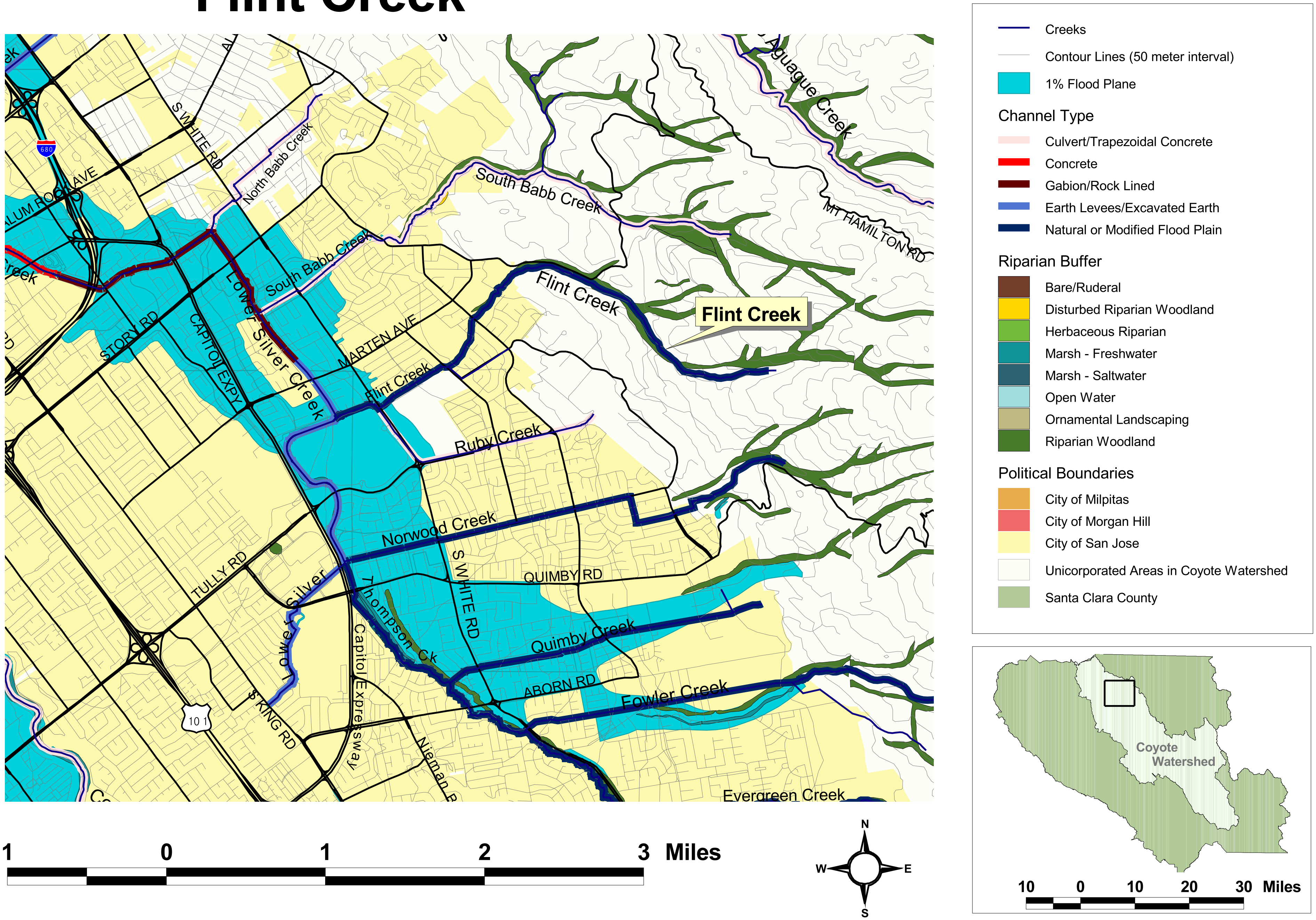
South Branch of Flint Creek
Ruby Creek

TABLE C-9: FLINT CREEK CONVEYANCE – NORTH AND SOUTH BRANCHES

Stationing		Creek Characterization
Beginning	End	
00+00	17+50	EXC
17+50	22+00	96-inch CP

Stationing		Creek Characterization
Beginning	**End**	
22+00	42+00	84-inch CP
42+00 (N)	62+00 (N)	66-inch CP
62+00 (N)	68+00 (N)	Sediment control facility for 955 acre drainage area
68+00 (N)	180+40 (N)	Natural (b = 2.0 ft)
00+00 (S)	05+00 (S)	54-inch CP
05+00 (S)	25+00 (S)	48-inch CP

Flint Creek


Flint Creek
South Babb Creek
North Babb Creek
Aguague Creek
MT HAMILTON RD
Lower Silver Creek
Ruby Creek
Norwood Creek
Quimby Creek
Fowler Creek
Thompson Ck
Evergreen Creek
ALUM ROCK AVE
STORY RD
CAPITOL EXPY
MARTEN AVE
S WHITE RD
QUIMBY RD
TULLY RD
ABORN RD
S KING RD
Capitol Expressway
Nieman B
680
10 1
1 0 1 2 3 Miles
N
W
E
S
Creeks
Contour Lines (50 meter interval)
1% Flood Plane
Channel Type
Culvert/Trapezoidal Concrete
Concrete
Gabion/Rock Lined
Earth Levees/Excavated Earth
Natural or Modified Flood Plain
Riparian Buffer
Bare/Ruderal
Disturbed Riparian Woodland
Herbaceous Riparian
Marsh - Freshwater
Marsh - Saltwater
Open Water
Ornamental Landscaping
Riparian Woodland
Political Boundaries
City of Milpitas
City of Morgan Hill
City of San Jose
Unicorporated Areas in Coyote Watershed
Santa Clara County
Coyote Watershed
10 0 10 20 30 Miles

Fowler Creek

Fowler Creek originates in the hills east of San Jose near the Evergreen Specific Plan area, and flows westerly through the foothills to Thompson Creek. This 1,781 acre subwatershed is located within steep foothills, and 30% within the flatter valley floor. The last 8,900 feet is located underground, and the creek daylights at a sediment removal facility just upstream of the confluence. The design 1% flood flow is 660 cfs at the Coyote Creek confluence.

Floodplain

Long stretches along both sides of Fowler Creek are located within 1% floodplain – this may need to be updated to reflect creek modifications and local land development in the area.

Land Use

This land is being developed in accordance with the Evergreen Specific Plan, as outlined in San Jose's 2020 General Plan. In areas south of Fowler Road within the USA, development is completely built out with new single family developments. There is also a vineyard with some agricultural usage, and an apricot orchard, but the entire urban service area is proposed for residential development, with one area of commercial development near Murillo Road. Most of the area is single and multi-family developments, and one parcel of commercial development is planned.

Fish Ladders/Drop Structures/Blockages

- Two sediment control facilities were constructed within the Evergreen Specific Plan area, one on the North Creek and the other on the South Creek. These are built out as ponds within the development.
- Energy Dissipator/Drop Structure 1000 feet east of San Felipe Road
- Energy Dissipator/Drop Structure 1800 feet east of San Felipe Road
- Energy Dissipator/Drop Structure 2200 feet east of San Felipe Road
- Sediment control facility at North Fowler Creek headwater
- Sediment control facility at South Fowler Creek headwater

Riparian/Vegetation

There are some Riparian Woodland areas east of Murillo Avenue, with some proposed linear parks within the Evergreen Service Plan area.

Candidate Projects

- Improve flood capacity to meet 1% flood flows between earth berm and limits of jurisdiction

Linkages

- Area of new development – Fowler Creek flows through the Evergreen Specific Plan area.

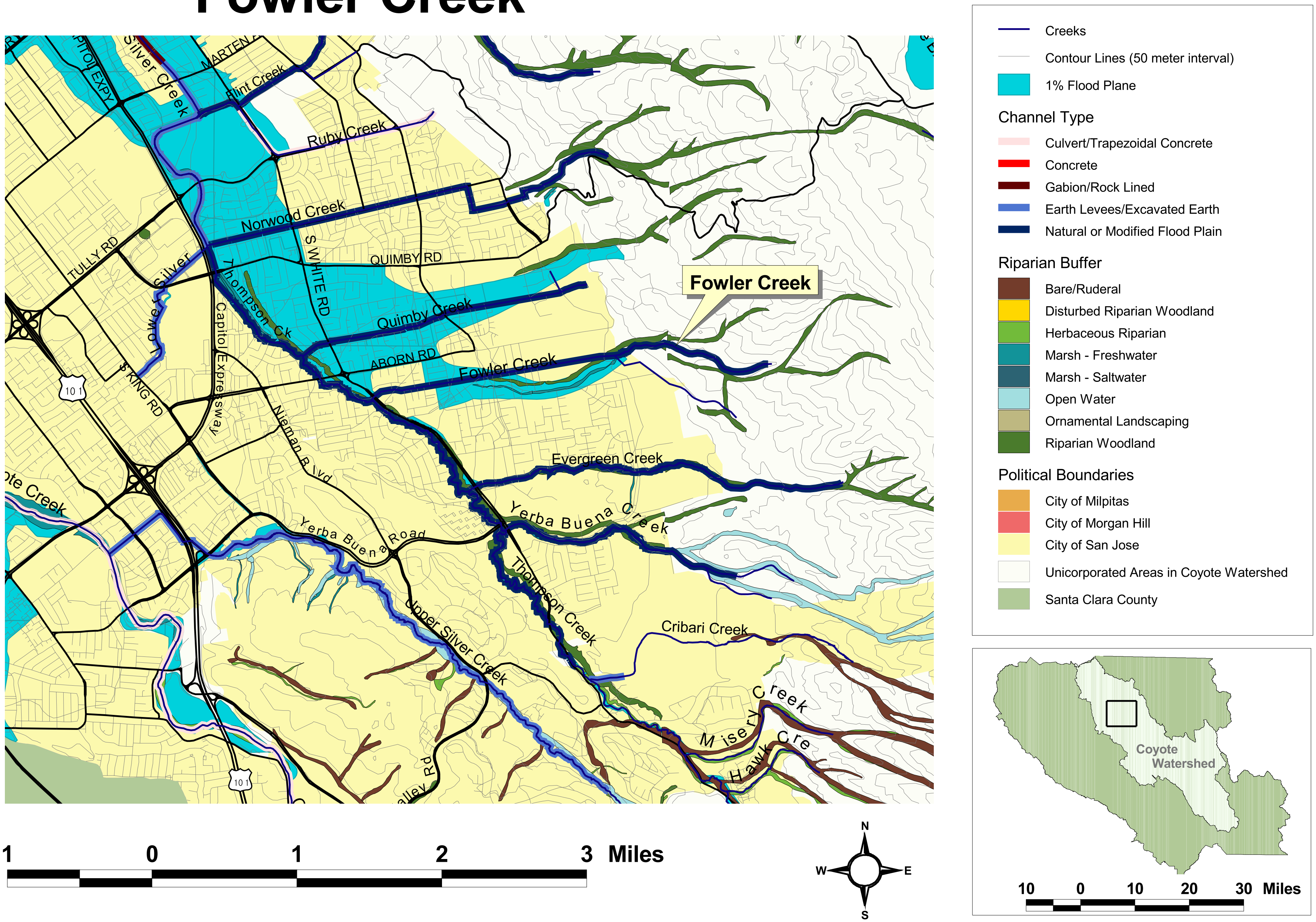
Tributaries

The south branch of Fowler Creek intersects the main stem near Station 90+00 at Murillo Road.

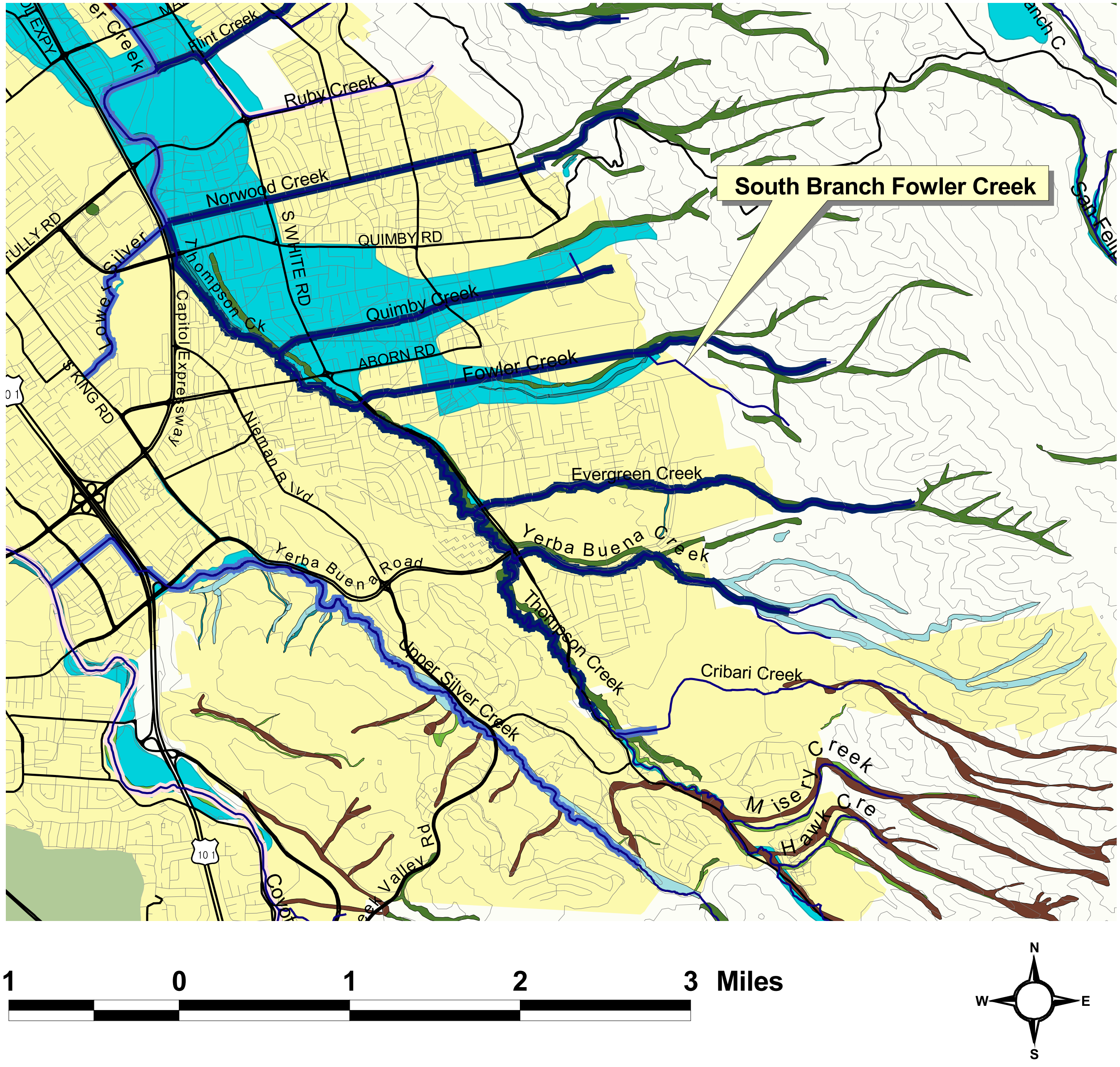
TABLE C-10: FOWLER CREEK CONVEYANCE (NORTH AND SOUTH)

Stationing		Creek Characterization
Beginning	End	
00+00	89+00	96-inch CIPP (concrete interceptor) – 89+00. This is the separation between N and S creeks
96+00 (N)	98+00 (N)	Sediment Removal Facility
98+00 (N)	Terminus	Natural
00+00 (S)	25+00	Natural
25+00	31+00	Sediment Removal Facility
31+00	Terminus	Natural

Fowler Creek



South Branch Fowler Creek



Creeks

Contour Lines (50 meter interval)

1% Flood Plane

Channel Type

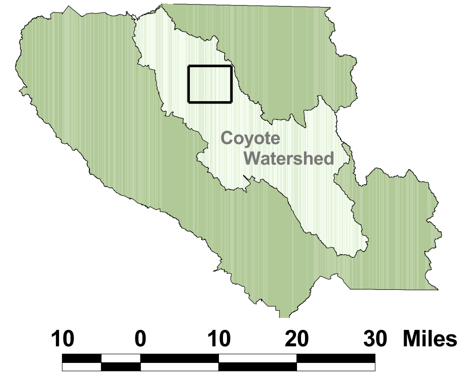
- Culvert/Trapezoidal Concrete
- Concrete
- Gabion/Rock Lined
- Earth Levees/Excavated Earth
- Natural or Modified Flood Plain

Riparian Buffer

- Bare/Ruderal
- Disturbed Riparian Woodland
- Herbaceous Riparian
- Marsh - Freshwater
- Marsh - Saltwater
- Open Water
- Ornamental Landscaping
- Riparian Woodland

Political Boundaries

- City of Milpitas
- City of Morgan Hill
- City of San Jose
- Unicorporated Areas in Coyote Watershed
- Santa Clara County



Los Buellis Creek

Los Buellis Creek is a small stream located in the upland areas east of Milpitas and draining into Berryessa Creek.

Floodplain
There are no areas are located within the 1% floodplain.

Land Use
Largely open space

Fish Ladders/Drop Structures/Blockages
None

Riparian/Vegetation
Riparian woodland areas predominate along both banks of Los Buellis Creek

Candidate Projects
None identified

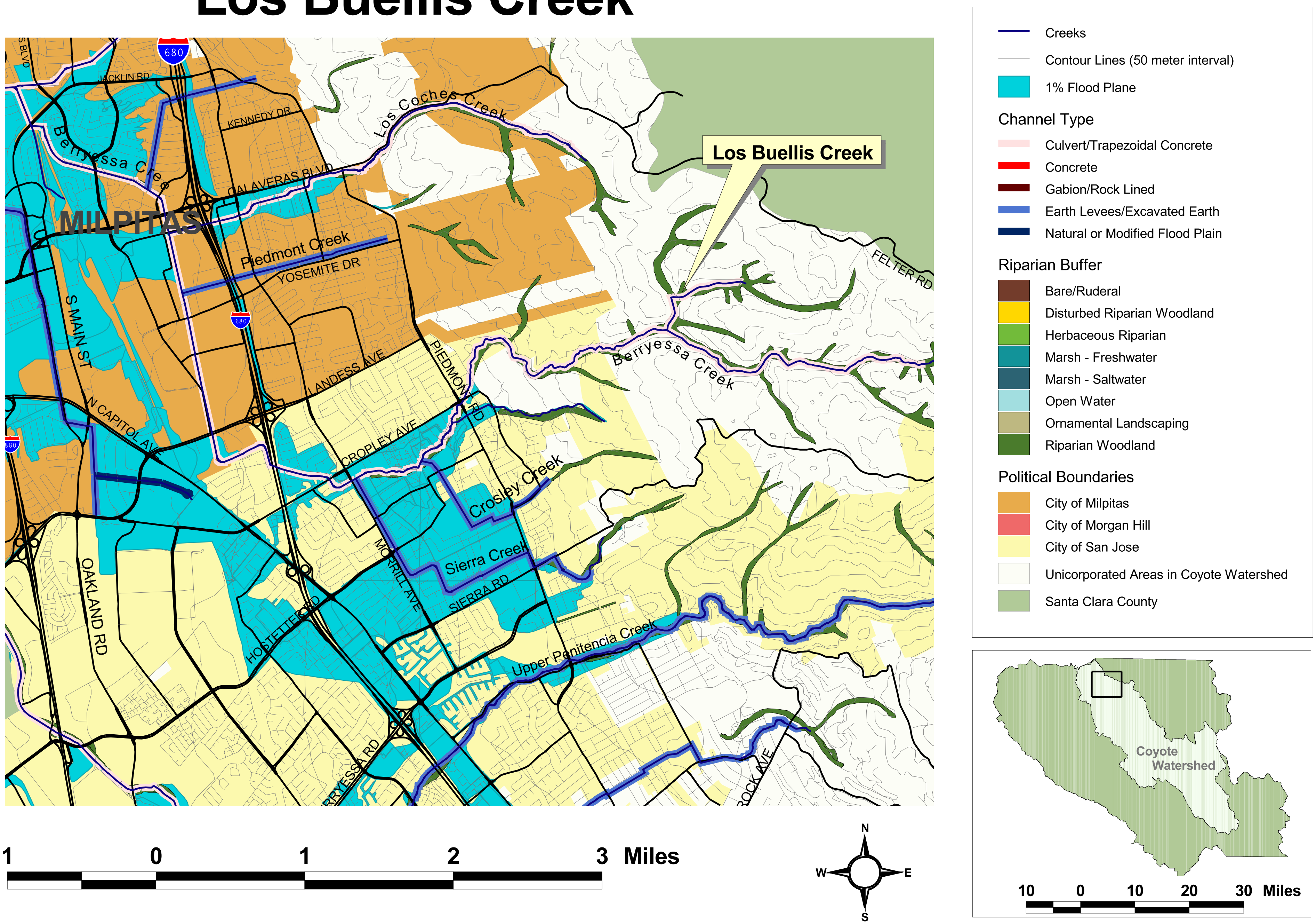
Linkages
None identified

Tributaries
None

TABLE C-11: LOS BUELLIS CREEK CONVEYANCE

Stationing		Creek Characterization
Beginning	End	
00+00	38+50	Natural

Los Buellis Creek



Los Coches Creek

Los Coches Creek flows westerly from near Calaveras Reservoir to Berryessa Creek, and drains a large area of the foothills above Milpitas. This four square mile watershed only drains about 0.75 square miles of area with the USA, with the rest of the flows originating from the upland areas. The 1% design flood flow at the Berryessa Creek confluence is 1115 cfs.

Floodplain

No areas along Los Coches Creek are located within the 1% floodplain.

Land Use

The land use surrounding the Los Coches Creek corridors is primarily residential.

Fish Ladders/Drop Structures/Blockages

- Energy dissipator/drop structure at Dempsey Road
- Two drop structures east of Carnegie Drive
- Six drop structures between Gadsden Drive and Temple Drive
- Three drop structures between Calaveras Road and Armand Drive
- Drop structure just east of Piedmont Road @ Calaveras (5 ft, 6 inch Gabion drop structure)

Riparian/Vegetation

Outside of Milpitas, the vegetation is dominated by Riparian Woodlands between Station 60+00 and the terminus of Los Coches Creek. There is no mapped vegetation within the City of Milpitas.

Candidate Projects

- Existing flood protection along Los Coches Creek does not meet the 1% design capacity, though no facilities along Los Coches Creek are currently located within the 1% floodplain. The area where additional flood protection projects are required is between Berryessa Creek and Temple Drive. The 1% design flow at the confluence is 1400 cfs, while the current design capacity is only 1115 cfs.

Linkages

- Stream Maintenance Program – Dempsey to I-680, under I-680

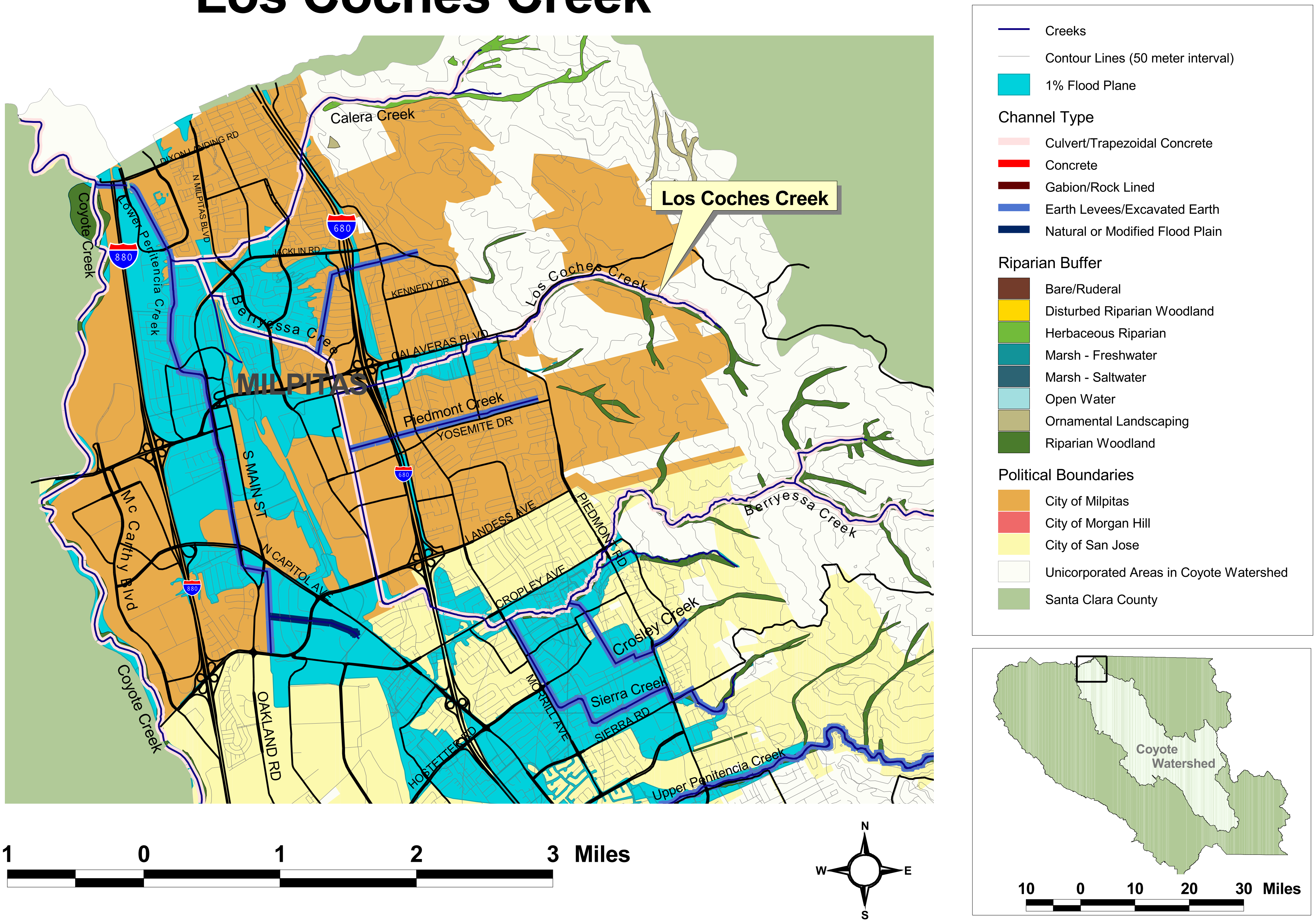
Tributaries

None

TABLE C-12: LOS COCHES CREEK CONVEYANCE

Stationing		Creek Characterization
Beginning	End	
00+00	10+00	EXC (b = 10 ft)
10+00	18+00	DBL RCB (10 ft X 8 ft) – under I-680
18+00	20+00	RCB (8 ft X 6 ft)
20+00	23+00	EXC (b = 10 ft)
23+00	24+00	CU (b = 10 ft)
24+00	25+00	RCB (10 ft X 7 ft)
25+00	33+00	CU (b = 10 ft)
33+00	34+00	RCB (10 ft X 5 ft)
34+00	40+00	CT (b = 5 ft)
40+00	41+00	RCB (10 ft X 5 ft)
41+00	51+00	CT (b = 5 ft)
51+00	52+00	RCB (8 ft X 6 ft)
52+00	64+00	CT (b = 5 ft)
64+00	68+00	NAT (b = 3 ft)
68+00	69+00	RCB (8 ft X 6 ft)
69+00	170+00	NAT (b = 3 ft)

Los Coches Creek



Lower Penitencia Creek

Located in Milpitas, this creek drains the Berryessa Watershed, and areas between Coyote Creek and Berryessa Creek. This creek is largely flat, and flows completely through urbanized areas of Milpitas.

Floodplain

The following areas are located within the 1% floodplain:

- West of Lower Penitencia Creek between Confluence and South Main Street (3 miles)
- Area east of Lower Penitencia Creek, South of Jacklin, west of UPRR, to headwaters (almost all)
- Area just north of Dixon Landing between Milmont and I-880

Land Use

Near the Coyote confluence, there is a combination of industrial and residential land uses. Additionally, there is the Elmwood Correctional Facility and the Great Mall nearby the creek, and large industrial areas near the headwaters and the Penitencia East Channel.

Fish Ladders/Drop Structures/Blockages

None identified

Riparian/Vegetation

None mapped

Candidate Projects

- East Penitencia Creek Channel – Improve flood capacity to convey 1% flood between Lower Penitencia Creek and limits of jurisdiction

Linkages

- BART extension along UPRR alignment – Capitol Avenue and Railroad Court.
- Stream Maintenance Program – d/s Redwood

Tributaries

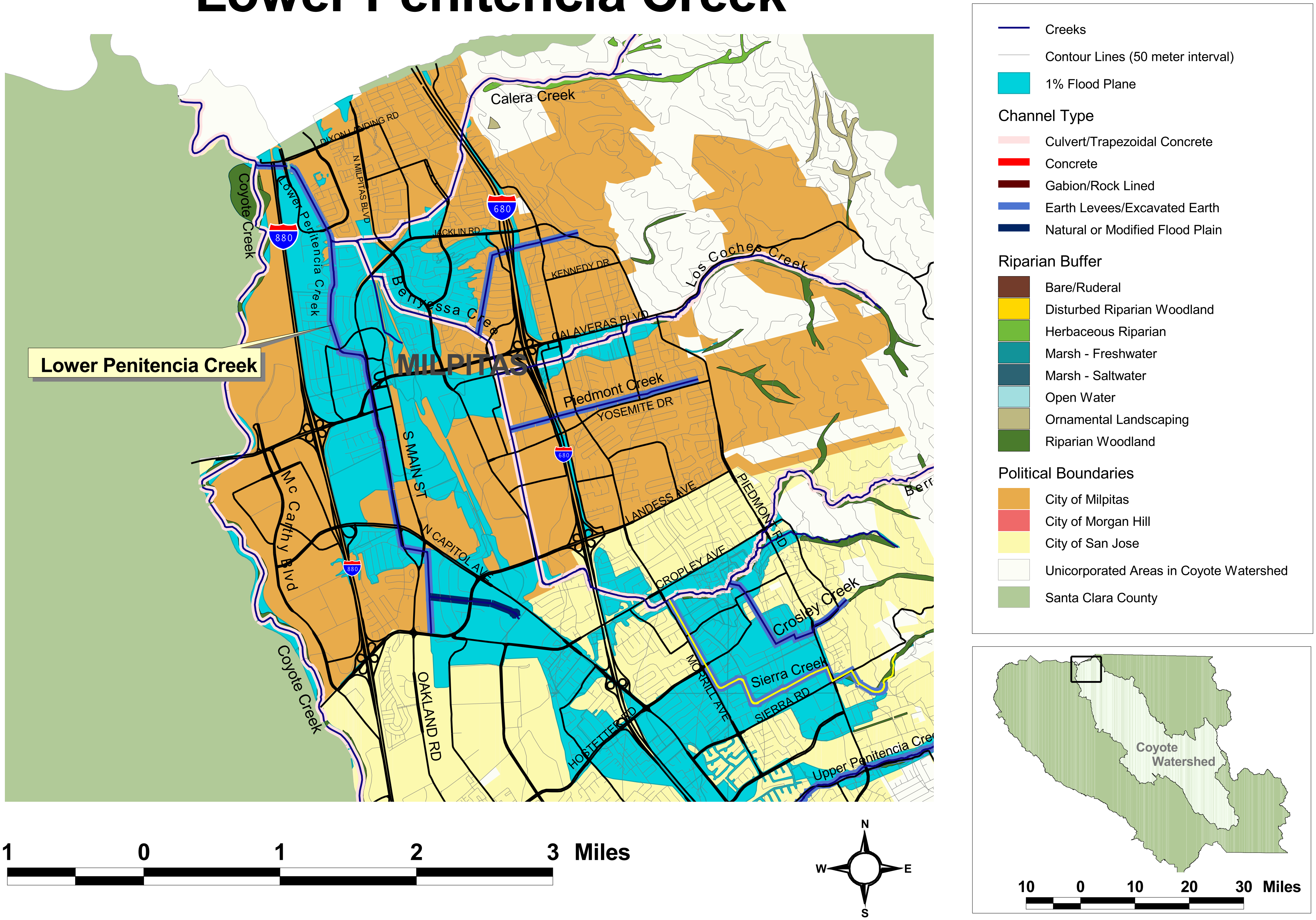
Berryessa Creek
Penitencia East Channel
Tularcitos Creek
Los Coches Creek
Piedmont Creek
Sierra Creek
Crosley Creek
Sweigert Creek

Los Buellis Creek

TABLE C-13: LOWER PENITENCIA CREEK CONVEYANCE

Stationing		Creek Characterization
Beginning	**End**	
00+00	05+00	EXC (L/R Bank, b = 50 ft)
05+00	08+00	CT (b = 58 ft)
08-00	15+00	CT (b = 55 ft)
15+00	38+00	EXC/Split Channel Levee (b = 60 ft)
38+00	46+50	CT (b = 60 ft)

Lower Penitencia Creek



Lower Silver Creek

Lower Silver Creek flows from just south of the Eastridge Shopping Center north to Lake Cunningham and eventually to Coyote Creek. It drains the Thompson and Lower Silver Creek watersheds, which include most of southeast San Jose.

Floodplain

The following areas are located within the 1% floodplain:

- Both sides of Lower Silver Creek between Coyote Creek confluence and Thompson Creek confluence (~5 miles)

Land Use

Adjacent to Lower Silver Creek is mostly residential single-family housing developments, with some industrial developments on the north side of the creek near Coyote Creek. There are three parks and two schools adjacent to Lower Silver downstream of Lake Cunningham.

Fish Ladders/Drop Structures/Blockages

NA

Riparian/Vegetation

There are some freshwater marshes between the Coyote confluence and Station 45+00. However, no other vegetation is mapped.

Candidate Projects

- Revegetation/trash clean-up opportunities

Linkages

- Lower Silver Creek Flood Protection Project
- Lower Silver/Thompson Creek Flood Protection Project
- Silver/Thompson Flood Protection Project
- Stream Maintenance Program

Tributaries

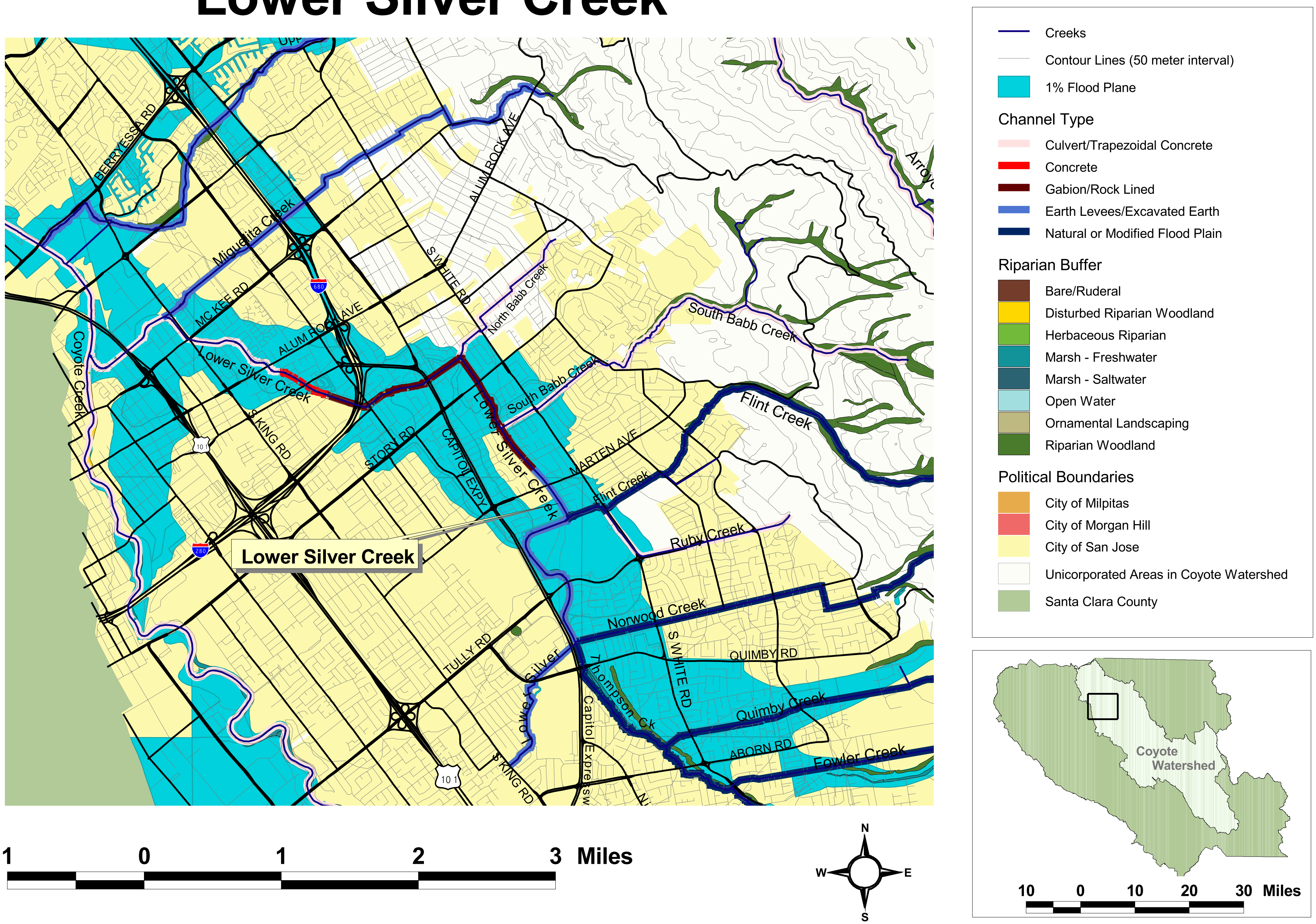
Miguelita Creek
North Babb Creek
South Babb Creek (incl. N and NE branch)
Flint Creek
Thompson Creek
Norwood Creek
Quimby Creek
Evergreen Creek

Yerba Buena Creek
Cribari Creek

TABLE C-14: LOWER SILVER CREEK CONVEYANCE

Stationing		Creek Characterization
Beginning	**End**	
00+00	10+00	EXC (b = 22 ft)
10+00	52+00	EXC (b = 25 ft)
52+00	54+00	RCB (21 ft X 9 ft) & DBL (12 ft X 12 ft) – under McKee Avenue
54+00	80+00	EXC (b = 19.5 ft)
80+00	87+00	CT (b = 20 ft)
87+00	88+00	RCB (25 ft X 13 ft) – under Alum Rock Avenue
88+00	103+00	CT (b = 19.5 ft)
103+00	123+00	EXC (b = 9 ft)
123+00	127+00	TRIPLE RCB (14 ft X 13 ft) – under I-680
127+00	130+00	CT (b = 20 ft)
130+00	131+00	DBL RCB (15 ft X 9 ft) – under Jackson Avenue
131+00	142+00	EXC (b = 6 ft)
142+00	155+00	EXC (b = 3 ft)
155+00	158+00	DBL RCB (12 ft X 12 ft) – under Capitol Expressway
158+00	180+00	EXC (b = 10 ft)
180+00	182+00	TRIPLE RCB (12 ft X 10 ft) – under Story Road
182+00	199+00	EXC (b = 20 ft)
199+00	200+00	TRIPLE RCB (12 ft X 10 ft)
200+00	217+00	EXC (b = 20 ft)
217+00	218+00	TRIPLE RCB (12 ft X 12 ft)
218+00	292+00	EXC (b = 20 ft)
292+00	315+00	EXC (b = 95 ft)
315+00	339+00	RCP (78-inch)
339+00	367+00	RCP (72-inch)
367+00	377+50	EXC (b = 8 ft)

Lower Silver Creek



Miguelita Creek

Floodplain

The following areas are located within the 1% floodplain:

- I-680 to Capitol Avenue, both sides
- Checkers Drive to Confluence, both sides

Land Use

Adjacent to Miguelita Creek is a combination of residential and open space land uses, with some commercial areas near Capitol Avenue.

Fish Ladders/Drop Structures/Blockages

None

Riparian/Vegetation

There is no mapped riparian vegetation within the City of San Jose. There are some disturbed riparian areas in the upland areas outside of the urban service area.

Candidate Projects

- Improve flood capacity to meet 1% flood flows between Lower Silver Creek and Toyon Road

Linkages

- Road widening – King Road
- Stream Maintenance Program
- Adjacent to Overfelt Gardens percolation facilities

Tributaries

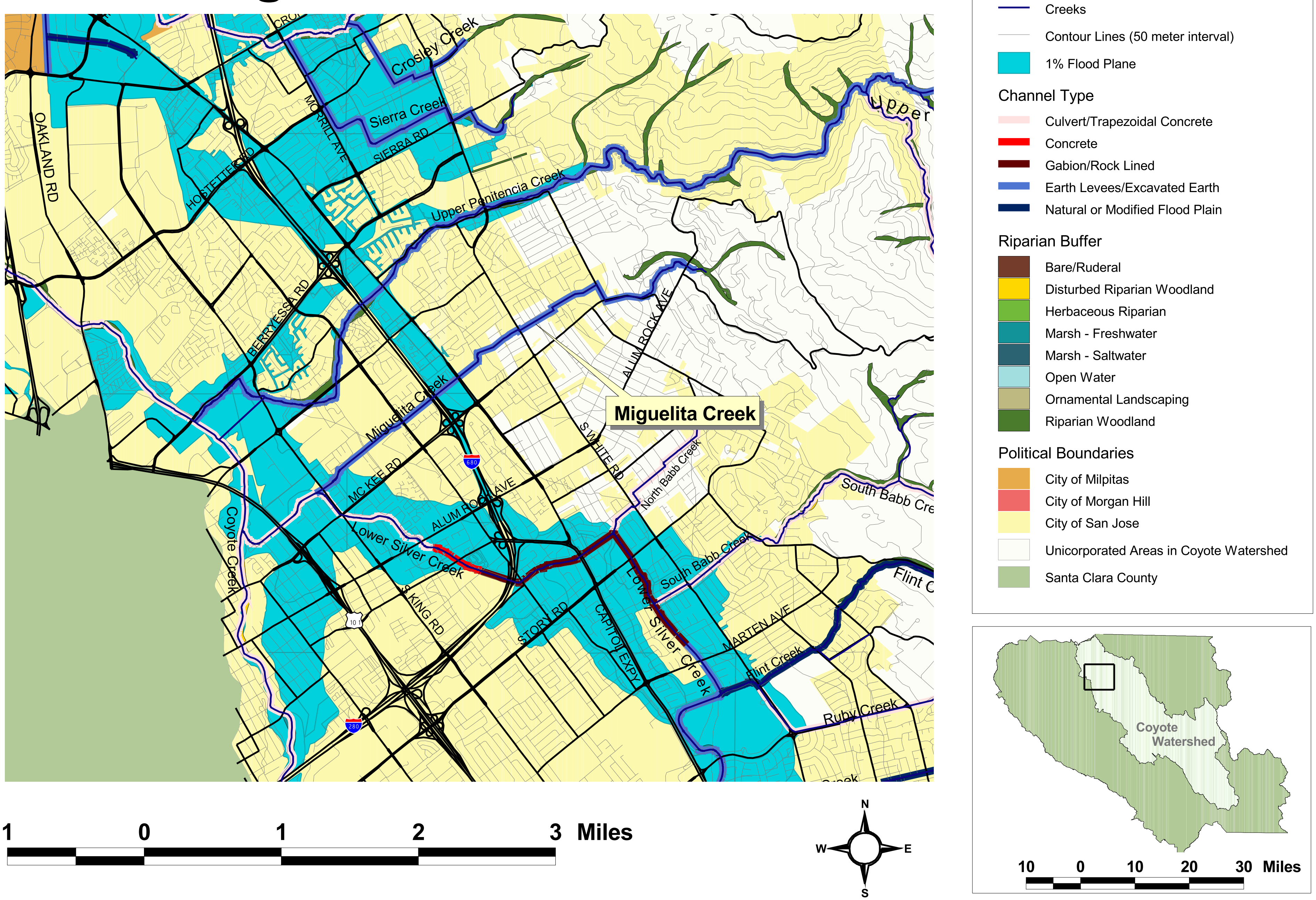
None

TABLE C-15: MIGUELITA CREEK CONVEYANCE

Stationing		Creek Characterization
Beginning	End	
00+00	15+00	RCP (78-inch)
15+00	30+00	NAT (b = 6 ft)
30+00	38+00	RCP (78-inch)
38+00	42+00	NAT (b = 7 ft)
42+00	50+00	RCP (72-inch)

Stationing		Creek Characterization
Beginning	**End**	
50+00	60+00	RCP (8 ft X 4 ft)
60+00	70+00	RCP (72-inch)
70+00	140+00	RCP (66-inch)
140+00	147+00	RCP (60-inch)
147+00	162+00	RCB (3 ft X 3 ½ ft)
162+00	195+00	NAT (b = 1 ft)

Miguelita Creek



North Babb Creek

This largely confined creek flows from Mahoney Avenue along Jerilyn and Woodhaven Drives to Lower Silver Creek.

Floodplain

The following areas are located within the 1% floodplain:

- Between White Road and Lower Silver Confluence, South Side
- Between Lyndale Avenue and Lower Silver Confluence, North Side

Land Use

Largely single family residential, with some retail and one school (Cureton)

Fish Ladders/Drop Structures/Blockages

NA

Riparian/Vegetation

No mapped vegetation

Candidate Projects

- Improve flood capacity to meet 1% flood flows between Lower Silver Creek and Mahoney Street
- Revegetation/trash clean-up opportunities

Linkages

NA

Tributaries

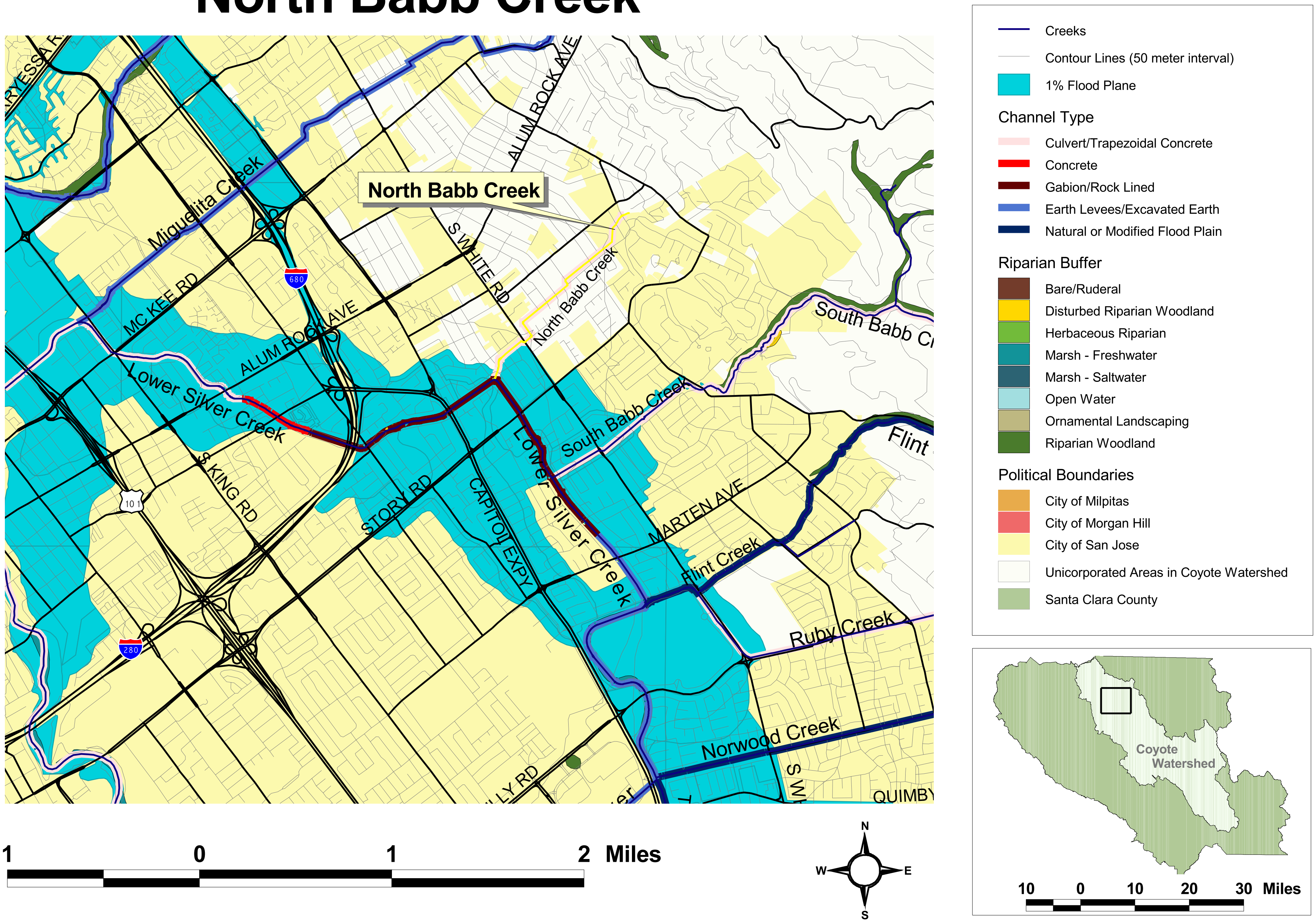
None

TABLE C-16: NORTH BABB CREEK CONVEYANCE

Stationing		Creek Characterization
Beginning	End	
00+00	03+00	GS (b = 4 ft)
03+00	04+00	RCB (8 ft X 5 ft)
04+00	08+00	SAC (b = 4 ft)
08+00	17+00	CT (b = 4 ft)

Stationing		Creek Characterization
Beginning	**End**	
17+00	28+00	RCP (84-inch)
28+00	41+00	RCP (72-inch)
41+00	49+00	CT (b = 3 ft)
49+00	51+00	RCB (7 ft X 7 ft)
51+00	64+00	RCP (60-inch)
64+00	68+00	RCP (54-inch)

North Babb Creek



Piedmont Creek

Flows Parallel to Yosemite Avenue from Piedmont Road to Berryessa Creek.

Floodplain

The following areas are located within the 1% floodplain:

- Small area just south of Piedmont Creek at I-680

Land Use

West of Interstate 680, there are primarily industrial land uses, with mostly residential land uses to the east of I-680.

Fish Ladders/Drop Structures/Blockages

NA

Riparian/Vegetation

None mapped

Candidate Projects

NA

Linkages

Stream Maintenance Program

Tributaries

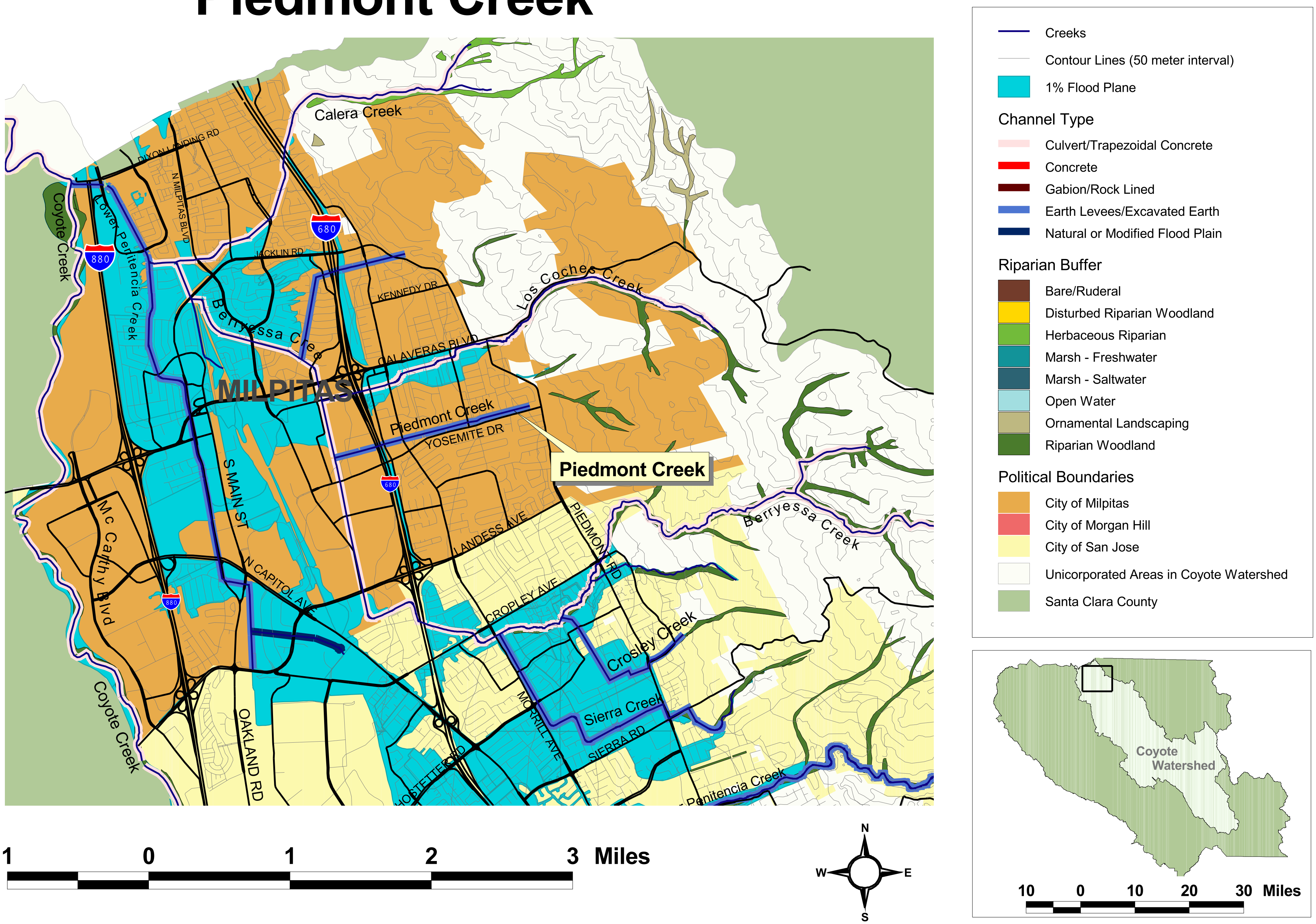
None

TABLE C-17: PIEDMONT CREEK CONVEYANCE

Stationing		Creek Characterization
Beginning	End	
00+00	09+00	EXC (b = 12 ft)
09+00	16+00	EXC (b = 8 ft)
16+00	19+00	RCB (8 ft X 7 ft) – under I-680
19+00	26+50	CU (b = 8 ft)
26+50	34+25	RCB (8 ft X 7 ft)
34+25	43+30	RCB (8 ft X 6 ft)
43+30	51+00	RCP (84-inch)

Stationing		Creek Characterization
Beginning	End	
51+00	56+00	RCP (72-inch)
56+00	59+00	RCP (60-inch)
59+00	77+60	RCP (48-inch)

Piedmont Creek



Quimby Creek

Quimby Creek flows west through the Evergreen Specific Plan area, a largely residential neighborhood experiencing a significant amount of new development. There are nearby schools and agricultural uses currently, with the agricultural sites to be converted to single and multi-family homes.

Floodplain

The following areas are located within the 1% floodplain:

- Between the Thompson Creek confluence and Station 86+00, on both sides of Quimby Creek

Land Use

Currently, there are primarily residential uses adjacent to Quimby Creek. There is one proposed school site and some agricultural sites currently adjacent to the development. This creek is within the Evergreen Specific plan area of San Jose, and development is rapidly occurring adjacent to the creek. There are plans to construct a linear park adjacent to the creek by the developer.

Fish Ladders/Drop Structures/Blockages

- Proposed sediment control facility site located at Station 95+00

Riparian/Vegetation

None mapped

Candidate Projects

- Remap 1% flood plain in this area to account for creek modification and increased development
- Improve flood capacity to meet 1% flood flows between u/s Apperson Street and limits of jurisdiction
- Revegetation/trash clean-up opportunities

Linkages

- Area of new development – Quimby Creek flows through the Evergreen Specific Plan area.

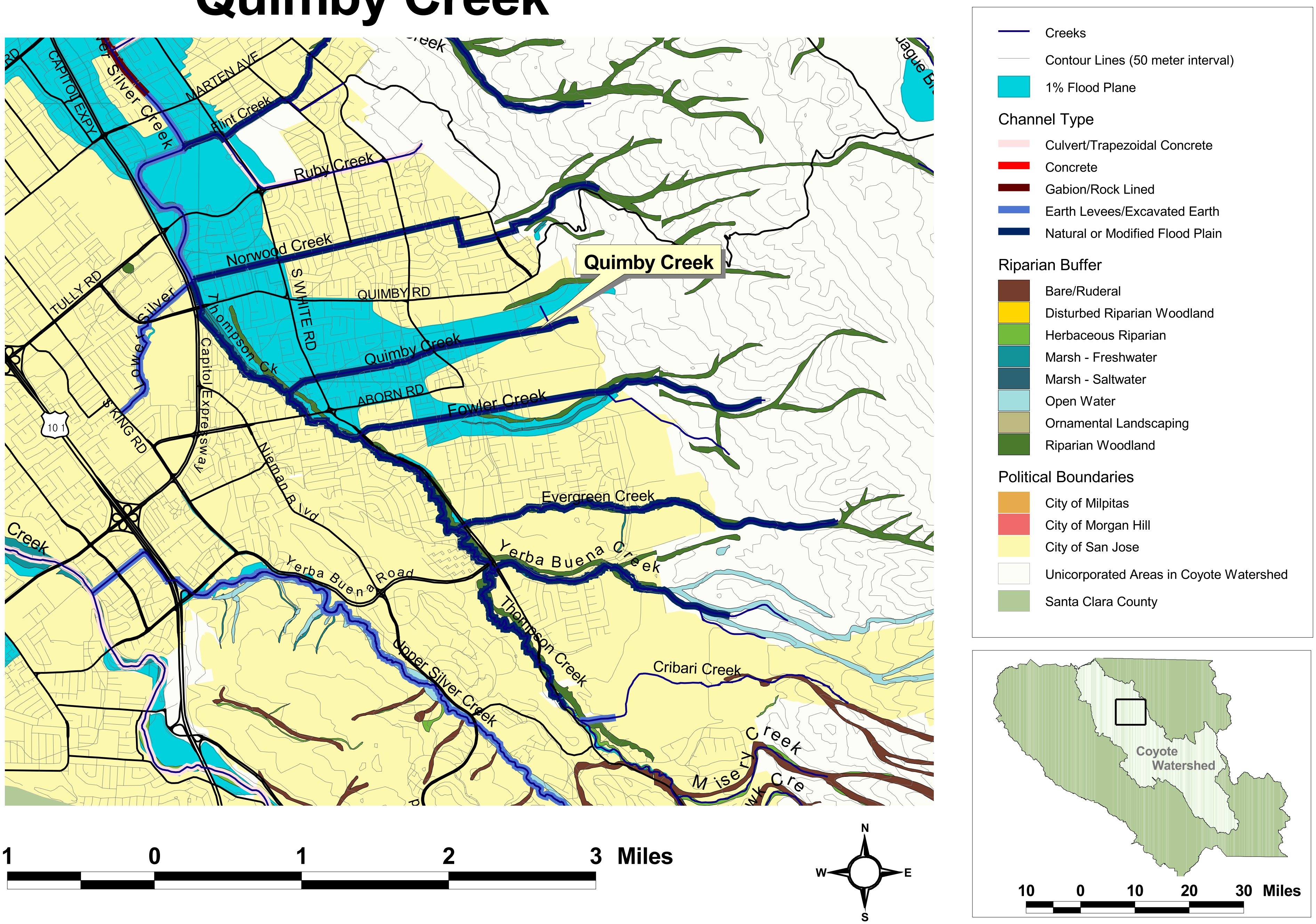
Tributaries

None

TABLE C-18: QUIMBY CREEK CONVEYANCE

Stationing		**Creek Characterization**
Beginning	**End**	
00+00	10+00	EXC (b = 8 ft)
10+00	38+00	EXC (b = 10 ft)
38+00	108+00	RCP (72-inch)

Quimby Creek



Ruby Creek

Ruby Creek flows west past the Valle Vista School and along the west side of Pleasant Hills Golf Course to Flint Creek.

Floodplain

The following areas are located within the 1% floodplain:

- Between confluence with Flint Creek and Tully Road, both sides of Ruby Creek are located within 1% flood plain. This area includes White Road and Lake Cunningham Park.

Land Use

The land use bordering Ruby Creek is largely residential, with one school, Lake Cunningham Park, the Pleasant Hills Golf Course and scattered retail sites along it's border.

Fish Ladders/Drop Structures/Blockages

- Sediment control facility located at Headwaters (Station 78+00)

Riparian/Vegetation

None mapped

Candidate Projects

NA

Linkages

NA

Tributaries

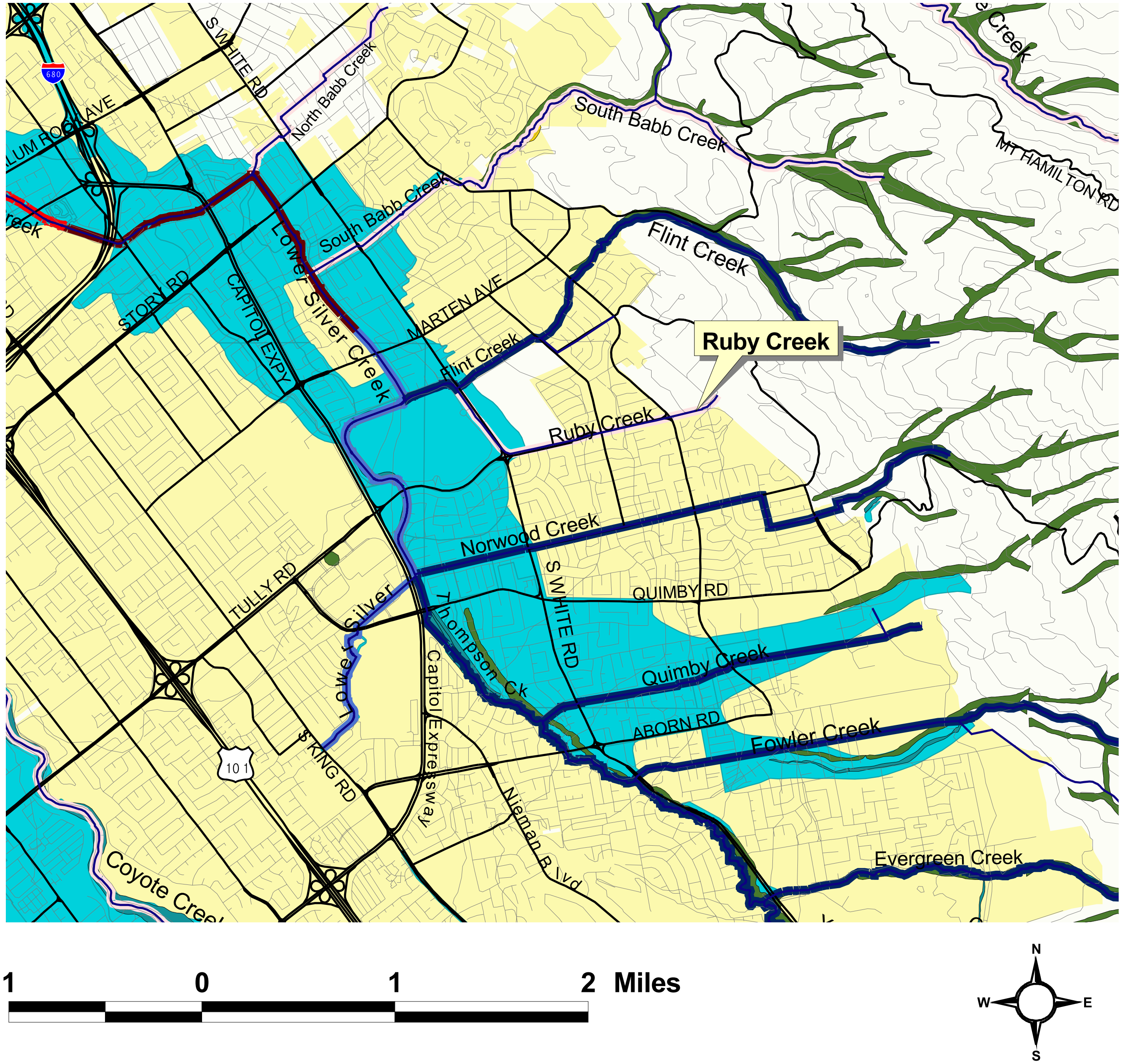
None

TABLE C-19: RUBY CREEK CONVEYANCE

Stationing		Creek Characterization
Beginning	End	
00+00	09+00	EXC (b = 8 ft)
09+00	10+00	RCB (b = 8 ft)
10+00	31+00	RCP (84-inch)
31+00	43+00	RCP (72-inch)
43+00	45+00	RCP (66-inch)
45+00	50+00	RCP (60-inch)

Stationing		Creek Characterization
Beginning	End	
50+00	66+00	RCP (54-inch)
66+00	84+00	RCP (60-inch)

Ruby Creek



▬ Creeks

▬ Contour Lines (50 meter interval)

🟦 1% Flood Plane

Channel Type

▬ Culvert/Trapezoidal Concrete

▬ Concrete

▬ Gabion/Rock Lined

▬ Earth Levees/Excavated Earth

▬ Natural or Modified Flood Plain

Riparian Buffer

🟫 Bare/Ruderal

🟨 Disturbed Riparian Woodland

🟩 Herbaceous Riparian

🟦 Marsh - Freshwater

🟦 Marsh - Saltwater

🟦 Open Water

🟫 Ornamental Landscaping

🟩 Riparian Woodland

Political Boundaries

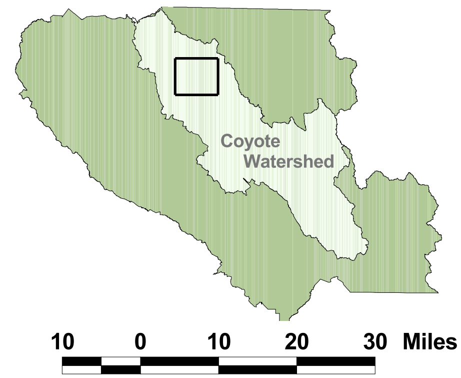
🟧 City of Milpitas

🟥 City of Morgan Hill

🟨 City of San Jose

⬜ Unicorporated Areas in Coyote Watershed

🟩 Santa Clara County



Sierra Creek

Located in Milpitas, this creek is largely underground, and drains large sections of southern Milpitas to Berryessa Creek. Almost the entire length of the creek is located within culverts.

Floodplain

The following areas are located within the 1% floodplain:

- Between Berryessa Creek confluence and Sierra Road, north of Sierra Creek
- Between Sierra Road and Hostetter, south of Sierra creek

Land Use

Land use bordering Sierra Creek is largely residential, with two schools adjacent to north side of creek.

Fish Ladders/Drop Structures/Blockages

NA

Riparian/Vegetation

There is primarily herbaceous riparian vegetation between the confluence and Station 60+00. In addition, between Stations 90+00 and the terminus, there are significant amounts of Oak Sycamore vegetation.

Candidate Projects

- Improve flood capacity to meet 1% flood flows between Berryessa Creek and limits of jurisdiction

Linkages

- Stream Maintenance Program – d/s Mauna Kea

Tributaries

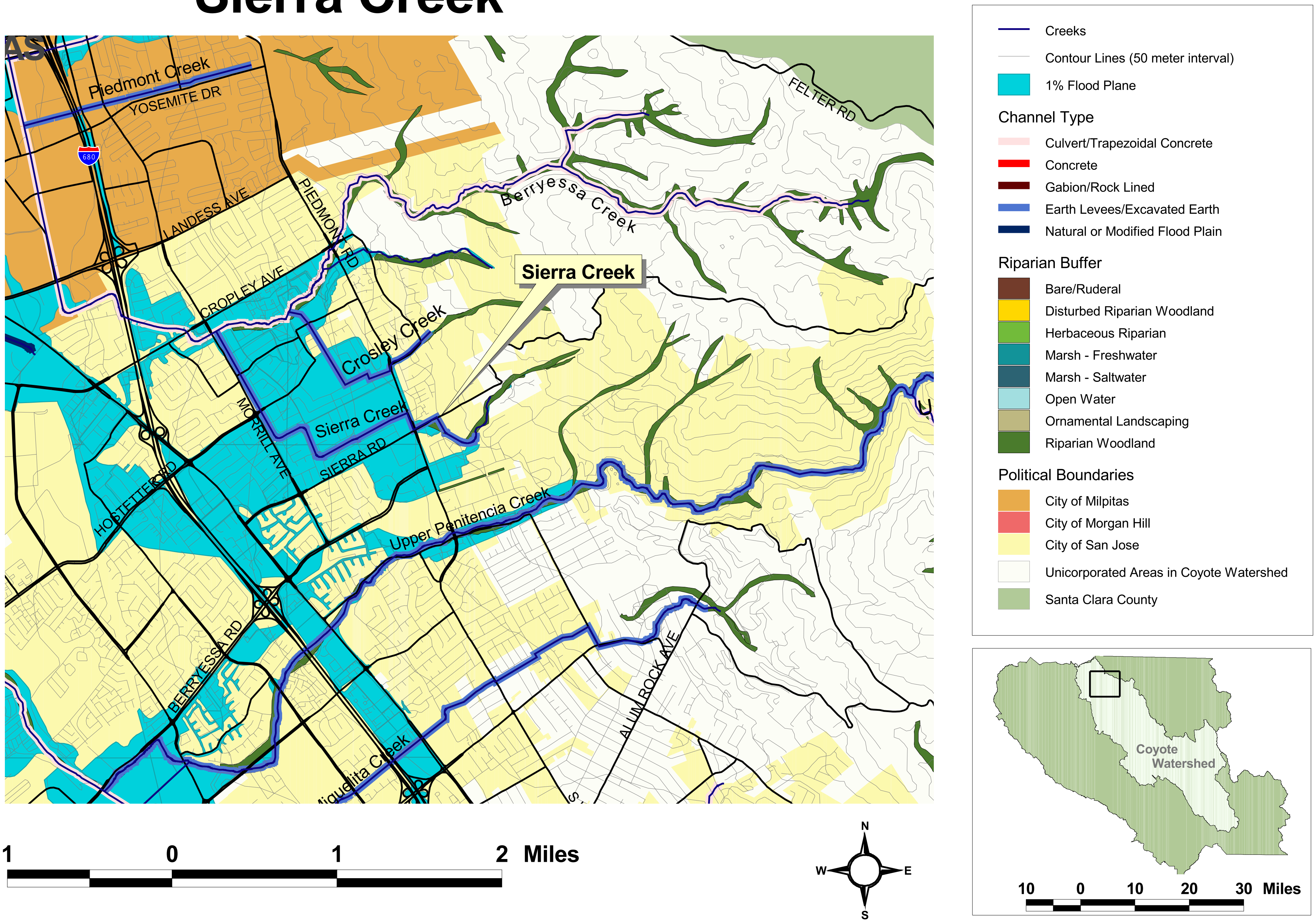
None

TABLE C-20: SIERRA CREEK CONVEYANCE

Stationing		Creek Characterization
Beginning	End	
00+00	16+00	EXC (b = 8 ft)
16+00	17+00	RCB (12 ft X 6 ft)
17+00	29+00	EXC (b = 8 ft)
29+00	30+00	RCB (12 ft X 6 ft)

Stationing		Creek Characterization
Beginning	End	
30+00	72+00	EXC (b = 4 ft)
72+00	85+00	RCP (54-inch)
85+00	127+00	RCP (36-inch)

Sierra Creek



South Babb Creek

South Babb Creek flows west from the upland areas of East San Jose through eastern San Jose to Lower Silver Creek. West of Mount Pleasant school, the creek is largely underground. Other areas of the creek meander or are unimproved.

Floodplain

The following areas are located within the 1% floodplain:

- Between Lower Silver Creek confluence and Whitney Drive (both sides)

Land Use

Adjacent to South Babb creek are primarily single-family residential developments in East San Jose.

Fish Ladders/Drop Structures/Blockages

NA

Riparian/Vegetation

None mapped

Candidate Projects

- Improve flood capacity to meet 1% flood flows between Lower Silver Creek and u/s Clayton Street

Linkages

NA

Tributaries

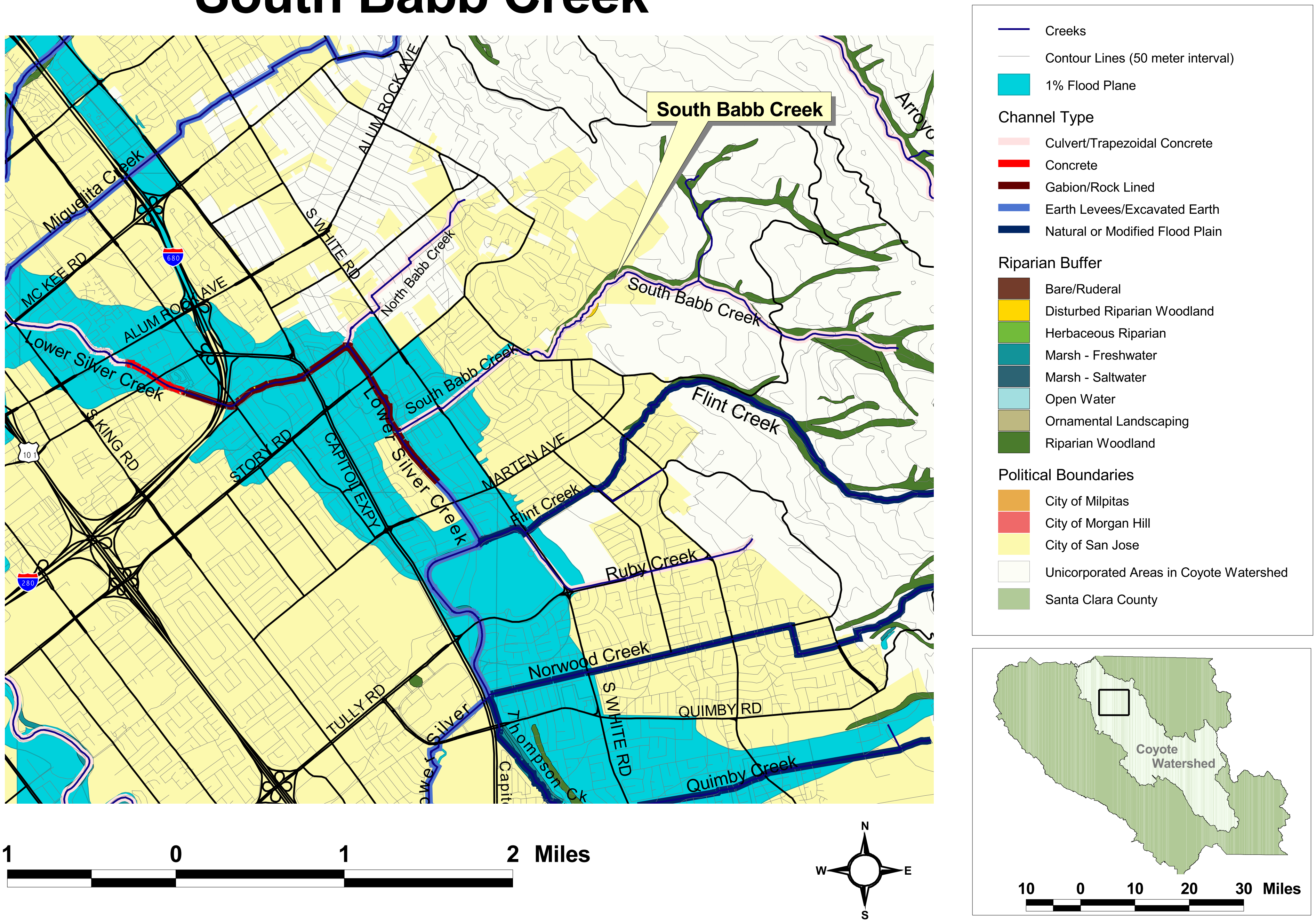
None

TABLE C-21: SOUTH BABB CREEK CONVEYANCE

Stationing		Creek Characterization
Beginning	**End**	
00+00	01+45	CT (b = 4 ft)
01+45	03+00	RCB (6 ft X 4 ft) – under Farringdon Drive
03+00	14+00	CT (b = 4 ft)
14+00	16+00	RCB (6 ft X 4 ft) – under White Road
16+00	26+00	CT (b = 4 ft)

Stationing		Creek Characterization
Beginning	**End**	
26+00	27+00	RCB (6 ft X 4 ft)
27+00	121+00	NAT (b = 3 ft)
121+00 (S)	190+50 (S)	NAT (b = 1.5 ft) – south branch
00+00 (N)	40+00 (N)	NAT – north branch of South Babb
00+00	09+00	NAT – NE branch of north branch of South Babb

South Babb Creek



Sweigert Creek

Sweigert Creek provides local drainage to areas of eastern Milpitas in a largely underground culvert draining into Berryessa Creek.

Floodplain

The following areas are located within the 1% floodplain:

- The entire length of Sweigert Creek is located within the 1% flood plain, with larger areas extending further south of the creek east of Piedmont Road to the Berryessa confluence.

Land Use

There is largely residential housing along the south bank, with open space located to the north.

Fish Ladders/Drop Structures/Blockages

None identified

Riparian/Vegetation

None identified

Candidate Projects

- Increase capacity of Sweigert Creek to convey 1% flow

Linkages

- None

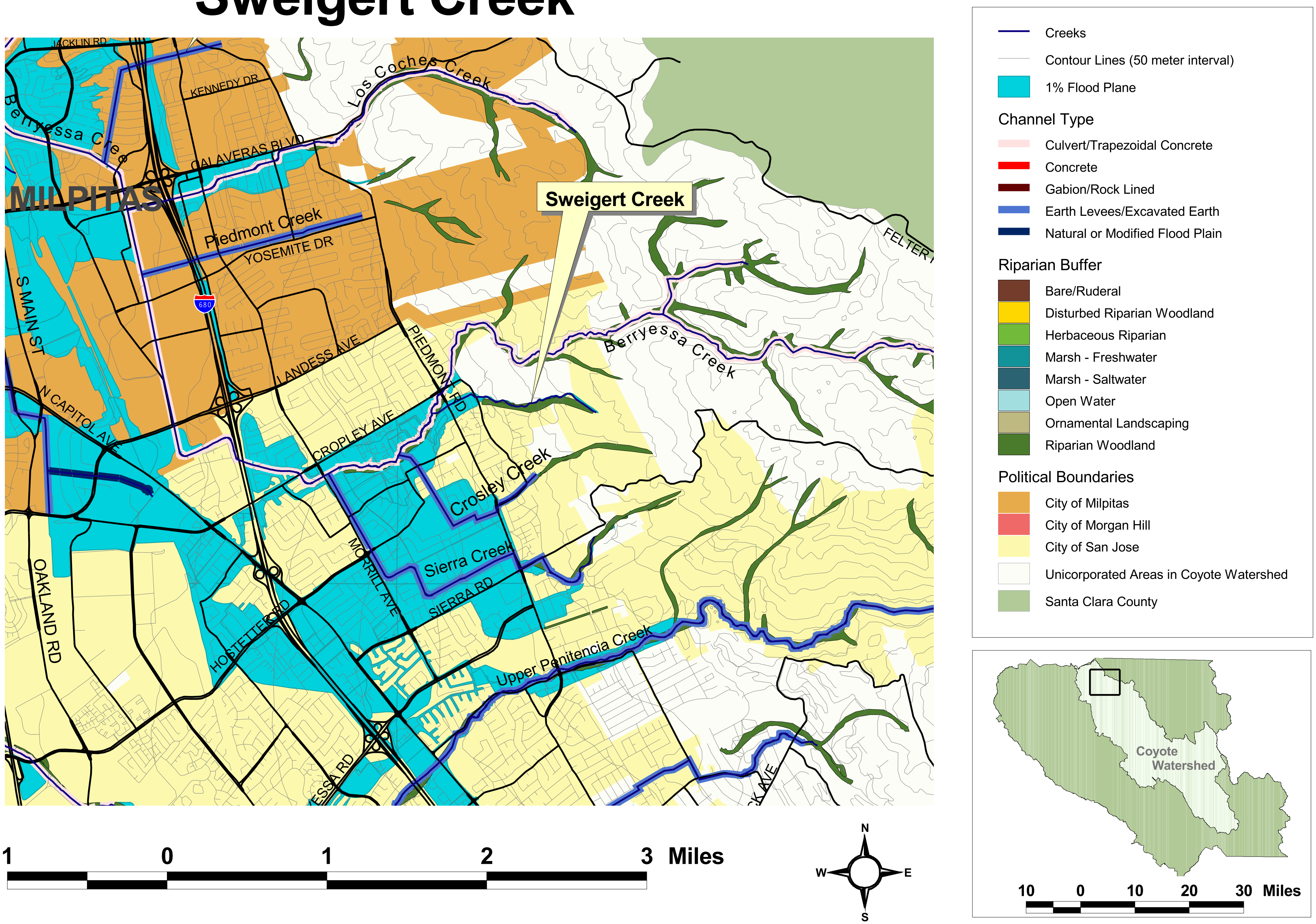
Tributaries

None

TABLE C-22: SWEIGERT CREEK CONVEYANCE

Stationing		Creek Characterization
Beginning	End	
00+00	End	42-inch to 54-inch culvert, with one RCB 4’ X 4’

Sweigert Creek



Thompson Creek

Thompson Creek flows along San Felipe road to Lake Cunningham, where it drains into Lower Silver Creek. This creek collects flows from many tributaries in the Evergreen area, and is largely a meandering creek.

Floodplain

The following areas are located within the 1% floodplain:

- Between Lower Silver Creek confluence and Fowler Creek on east side of creek

Land Use

Adjacent to South Babb creek are primarily single-family residential developments in East San Jose.

Fish Ladders/Drop Structures/Blockages

- Streamflow gage #15 at Station 12+00

Riparian/Vegetation

Significant Riparian Woodland vegetation remains on both sides of Thompson Creek.

Candidate Projects

None identified

Linkages

- Lower Silver/Thompson Creek Flood Protection Project
- Quimby Fish Ladder
- Stream Maintenance Program – d/s Pettigrew Court

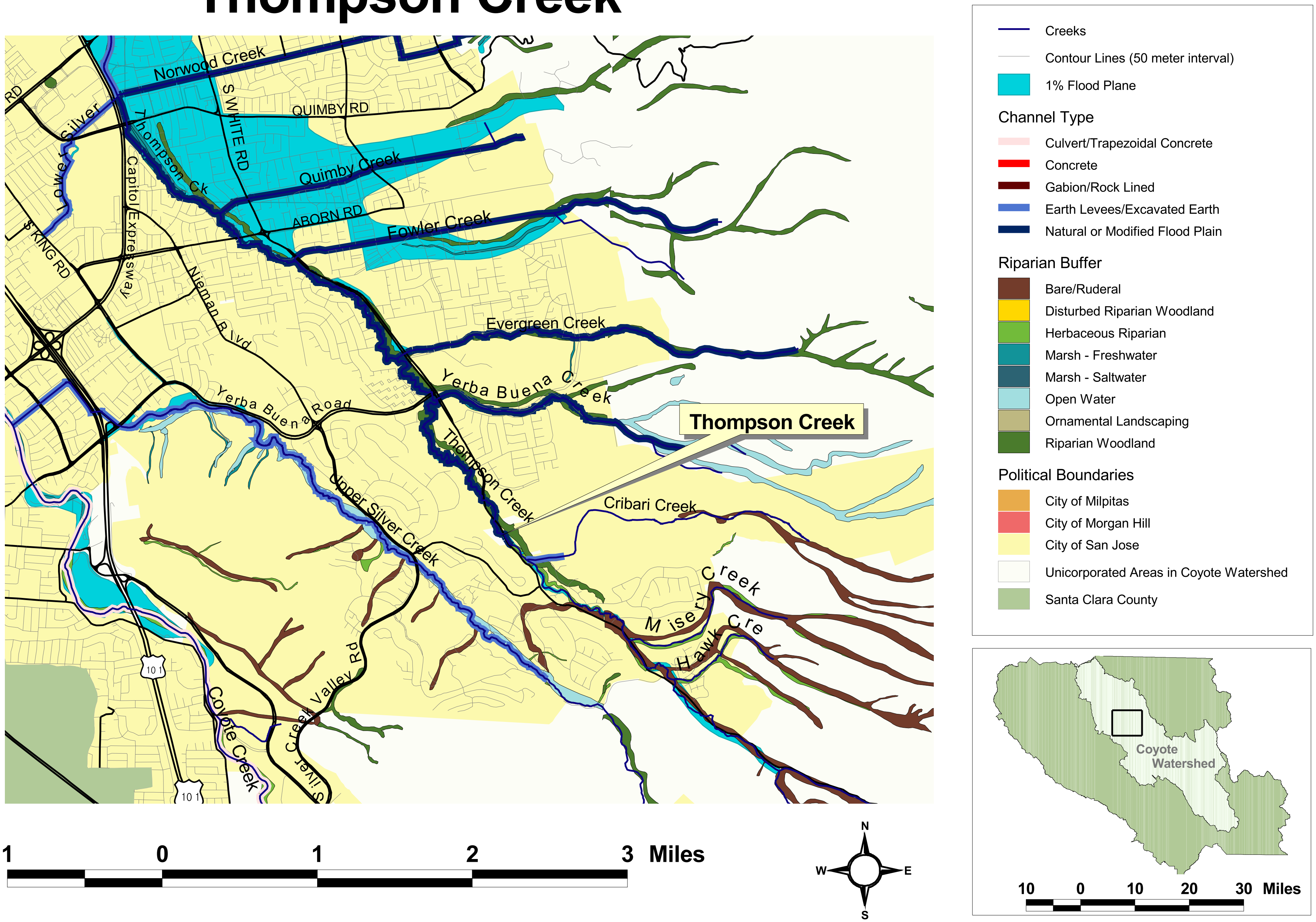
Tributaries

Yerba Buena Creek
Evergreen Creek
Fowler Creek
Norwood Creek
Cribari Creek

TABLE C-23: THOMPSON CREEK CONVEYANCE

Stationing		Creek Characterization
Beginning	**End**	
00+00	10+00	EXC (b = 60 ft)
10+00	60+00	MFP
60+00	75+00	NAT (b = 5 ft)
75+00	77+00	RCB (b = 12 ft)
77+00	242+00	NAT (b = 3-4 ft)
245+00	247+00	RCB (10 ft X 7 ft) – under San Felipe
247+00	256+00	NAT
256+00	257+00	RCB (16 ft X 7 ft) – under San Felipe
257+00	262+00	NAT
262+00	263+00	RCB (12 ft X 7 ft)
263+00	Terminus	NAT

Thompson Creek



Tularcitos Creek

Tularcitos Creek is a largely underground creek in Milpitas providing local drainage for portions of the Berryessa Creek Watershed.

Floodplain

The following areas are located within the 1% floodplain:

- Between I-680 and Printy Avenue (200 ft)

Land Use

Adjacent to South Babb creek are primarily single-family residential developments in East San Jose.

Fish Ladders/Drop Structures/Blockages

None identified

Riparian/Vegetation

None identified

Candidate Projects

None identified

Linkages

None identified

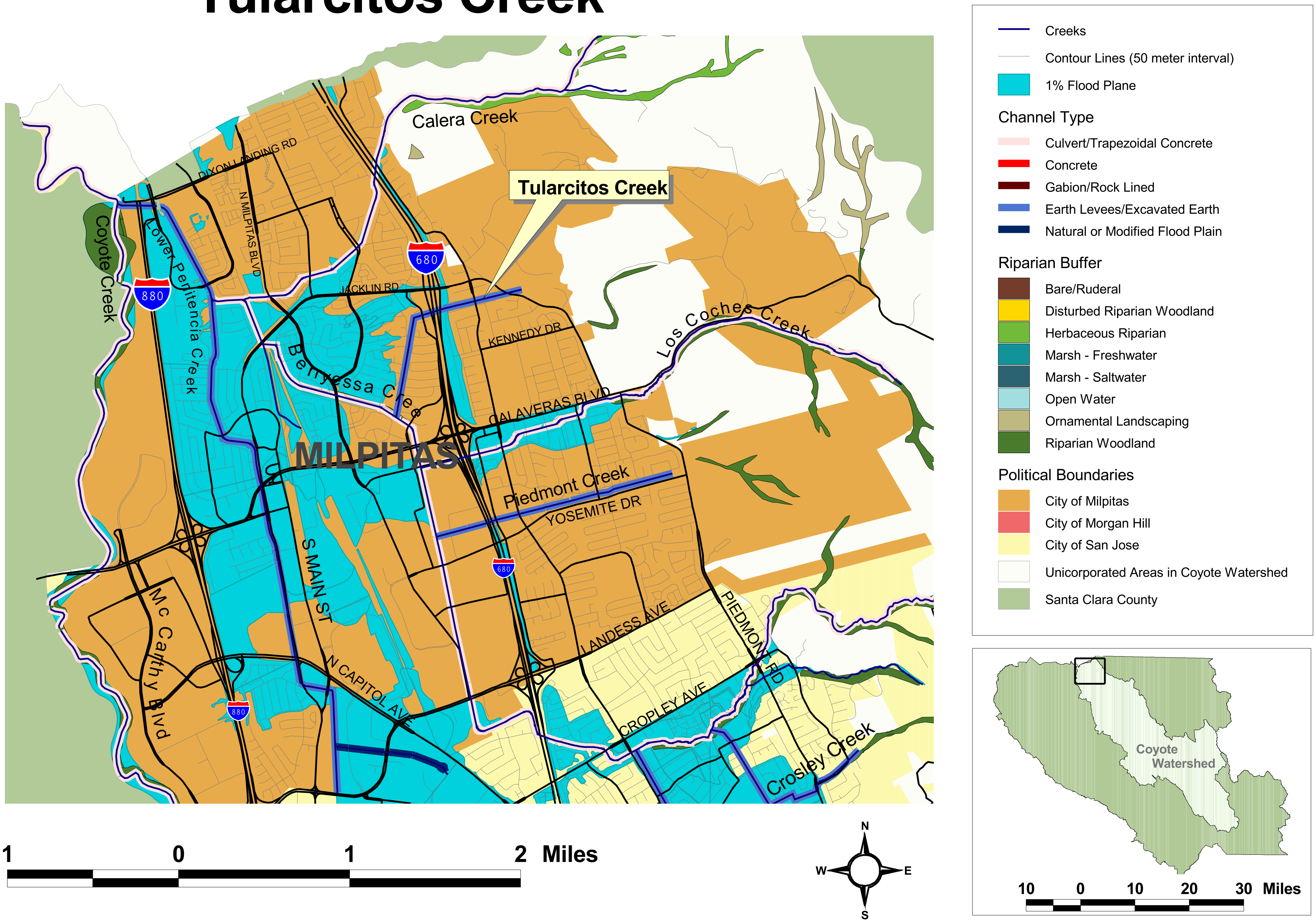
Tributaries

None

TABLE C-24: TULARCITOS CONVEYANCE

Stationing		Creek Characterization
Beginning	End	
00+00	33+00	EXC (b = 21 ft)
33+00	34+00	TRIPLE RCB (10 ft X 7.5 ft) – under Hillview Drive
34+00	37+00	EXC (b = 21 ft)
37+00	40+00	DBL RCB (10 ft X 7 ft) – under I-680
40+00	45+00	RCP (72-inch)

Tularcitos Creek



Upper Penitencia Creek

Floodplain

The following areas are located within the 1% floodplain:

- Between Coyote Creek confluence and Dorel Drive (3 miles) on both sides of creek

Land Use

Adjacent to South Babb creek are primarily single-family residential developments in East San Jose.

Fish Ladders/Drop Structures/Blockages

- Streamflow Gauge #2 at Station 20+00
- Streamflow Gauge #72 at Station 70+00 (Mabury Road)
- Streamflow Gauge #1 at Station 167+00 (Piedmont Road)
- Streamflow Gauge #1-4 at Noble Avenue

Riparian/Vegetation

Candidate Projects

- Trails/Park Chain along creek between Coyote Confluence and percolation ponds

Linkages

- Upper Penitencia Flood Protection Project
- Upper Penitencia Creek Bypass Channel
- Road widening – Coyote to Lundy Avenue
- Road widening – King Road
- VTA Tasman East Light Rail extension – Capitol Avenue
- Road widening – Montague Expressway
- Fisheries and Aquatic Habitat Collaborative Effort

Tributaries

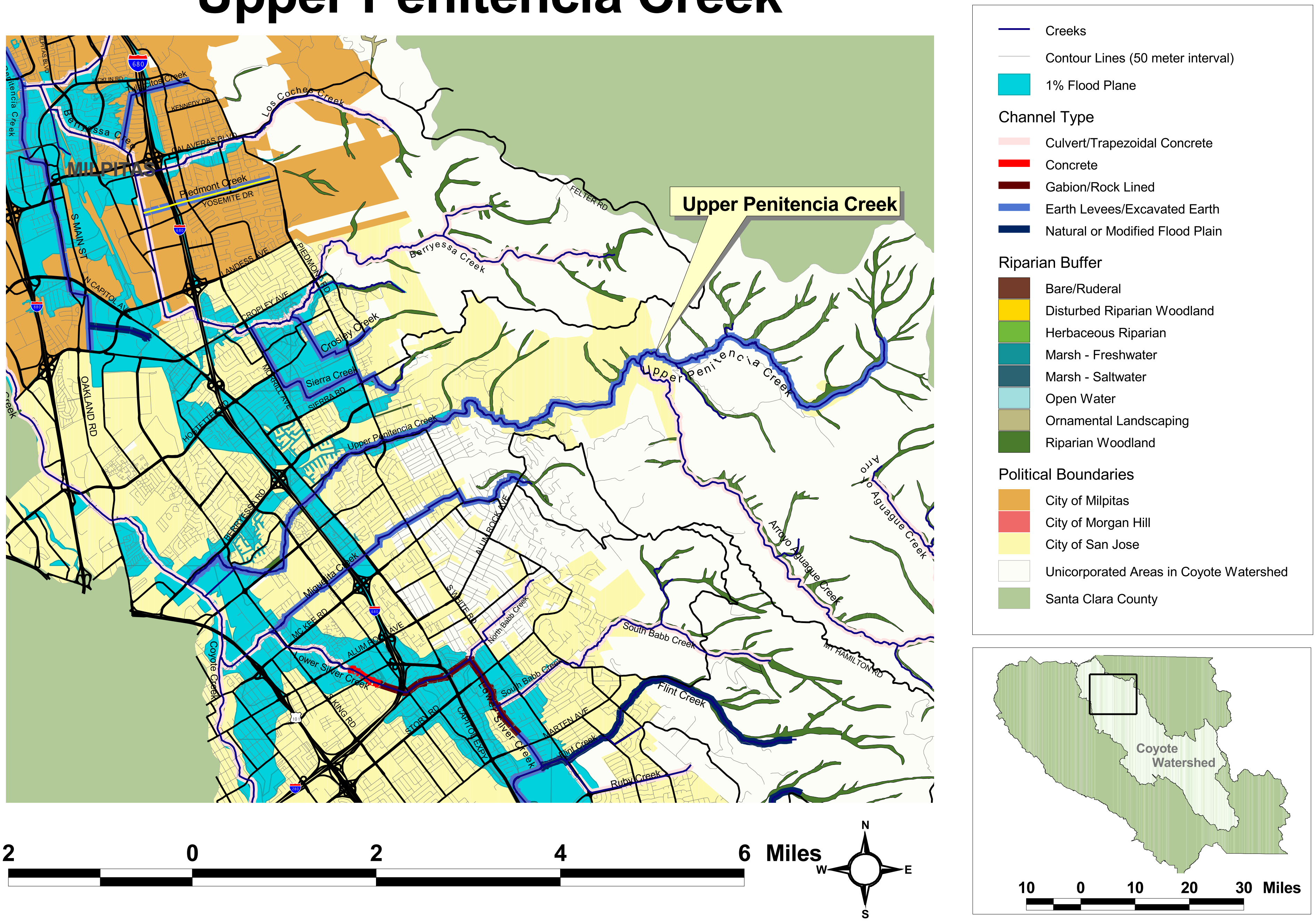
Arroyo Aguague (including Branch A, B, C, D & E)
Upper Penitencia – South Branch

TABLE C-25: UPPER PENITENCIA CONVEYANCE

Stationing		Creek Characterization
Beginning	**End**	
00+00	35+00	NAT (b = 8 ft)
35+00	65+00	L (b = 5 to 8 ft)

Stationing		Creek Characterization
Beginning	**End**	
65+00	66+00	DBL RCB (12 ft X 7 ft)
66+00	104+00	L (b = 5 to 10 ft)
104+00	106+00	Unknown
106+00	490+00	NAT (b = 4 to 5 ft)
00+00 (N)	13+00 (N)	NAT
00+00 (S)	45+50 (S)	NAT

Upper Penitencia Creek



Upper Silver Creek

Upper Silver Creek flows northwest out of the Evergreen area to Coyote Creek. There are no tributaries of this long creek, and east of Highway 101, the creek is largely in it's natural state.

Floodplain

The following areas are located within the 1% floodplain:

- Between Yerba Buena Road and Silver Creek Road on North side or creek

Land Use

Between Silver Creek Road and the Coyote Confluence, there are typically residential uses along the length of the Creek. Linear Parks are also commonly found along the creek, along with the Silver Creek Golf Course.

Fish Ladders/Drop Structures/Blockages

None identified

Riparian/Vegetation

None mapped, though the golf course is adjacent to the creek

Candidate Projects

- Improve flood capacity to meet 1% flood flows between Highway 101 and Silver Creek Road

Linkages

NA

Tributaries

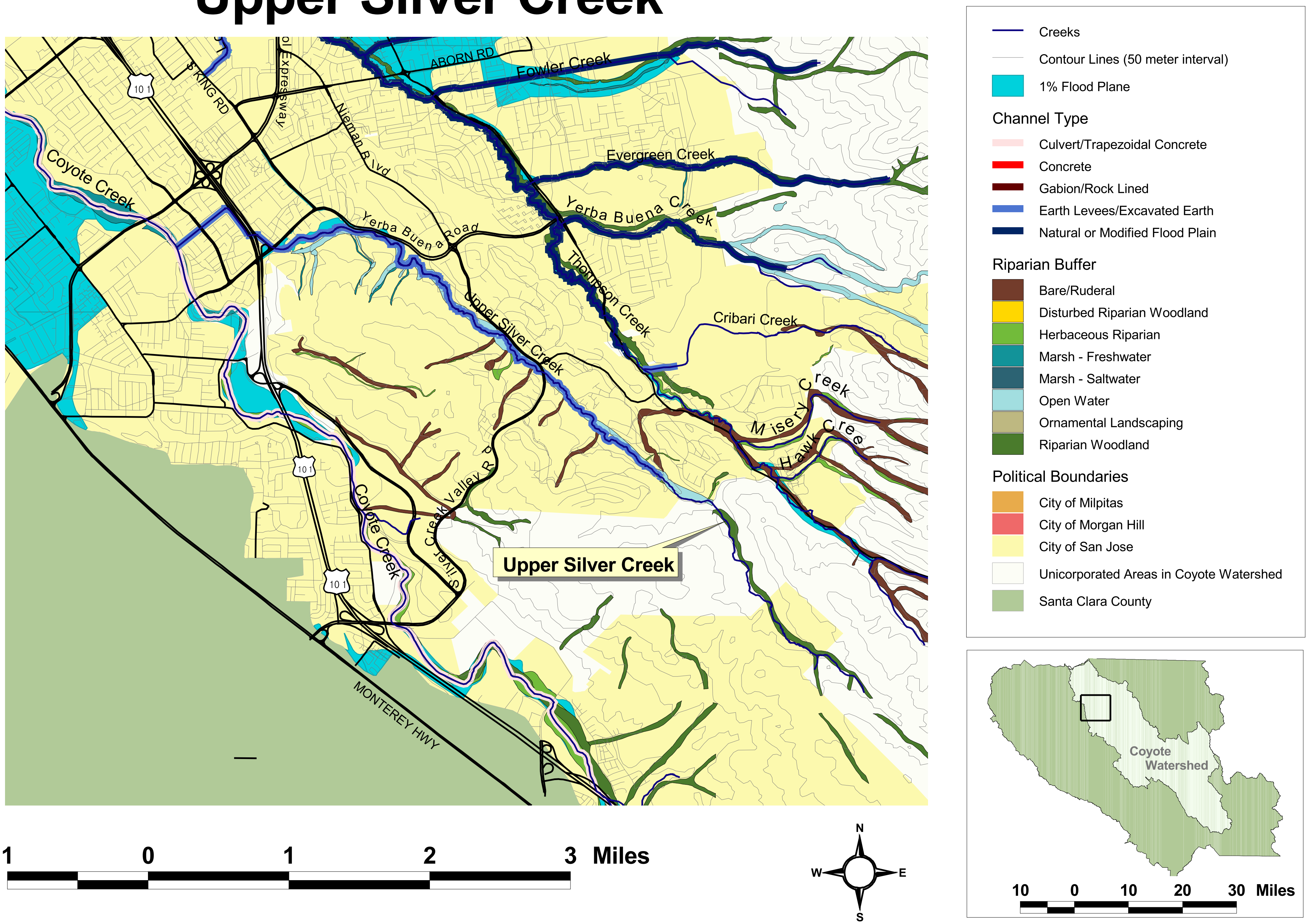
None

TABLE C-26: UPPER SILVER CONVEYANCE

Stationing		Creek Characterization
Beginning	End	
00+00	10+00	CT & EXC – CT (b = 8.5 ft), EXC (b = 8 ft)
10+00	11+50	RCB (10.63 ft X 8 ft)
11+50	37+00	CT (b = 8 ft)
37+00	40+50	RCB (12 ft X 9 ft)
40+50	66+00	CT (b = 10 ft)

66+00	266+00+	NAT (b = 3 to 5 ft)

Upper Silver Creek



Willow Springs Creek

Willow Springs flows from the Uvas/Llagas Watershed into Fisher Creek in Coyote Valley.

Floodplain
The following areas are located within the 1% floodplain:

- Confluence of Fisher Creek to just before Santa Teresa Blvd.

Land Use
Currently, this area is largely agricultural on the valley floor, and undeveloped hillsides in the creek's upland reaches.

Fish Ladders/Drop Structures/Blockages
None identified

Riparian/Vegetation
Riparian woodland areas border the length of Willow Springs Creek within the Coyote Watershed

Candidate Projects
None identified

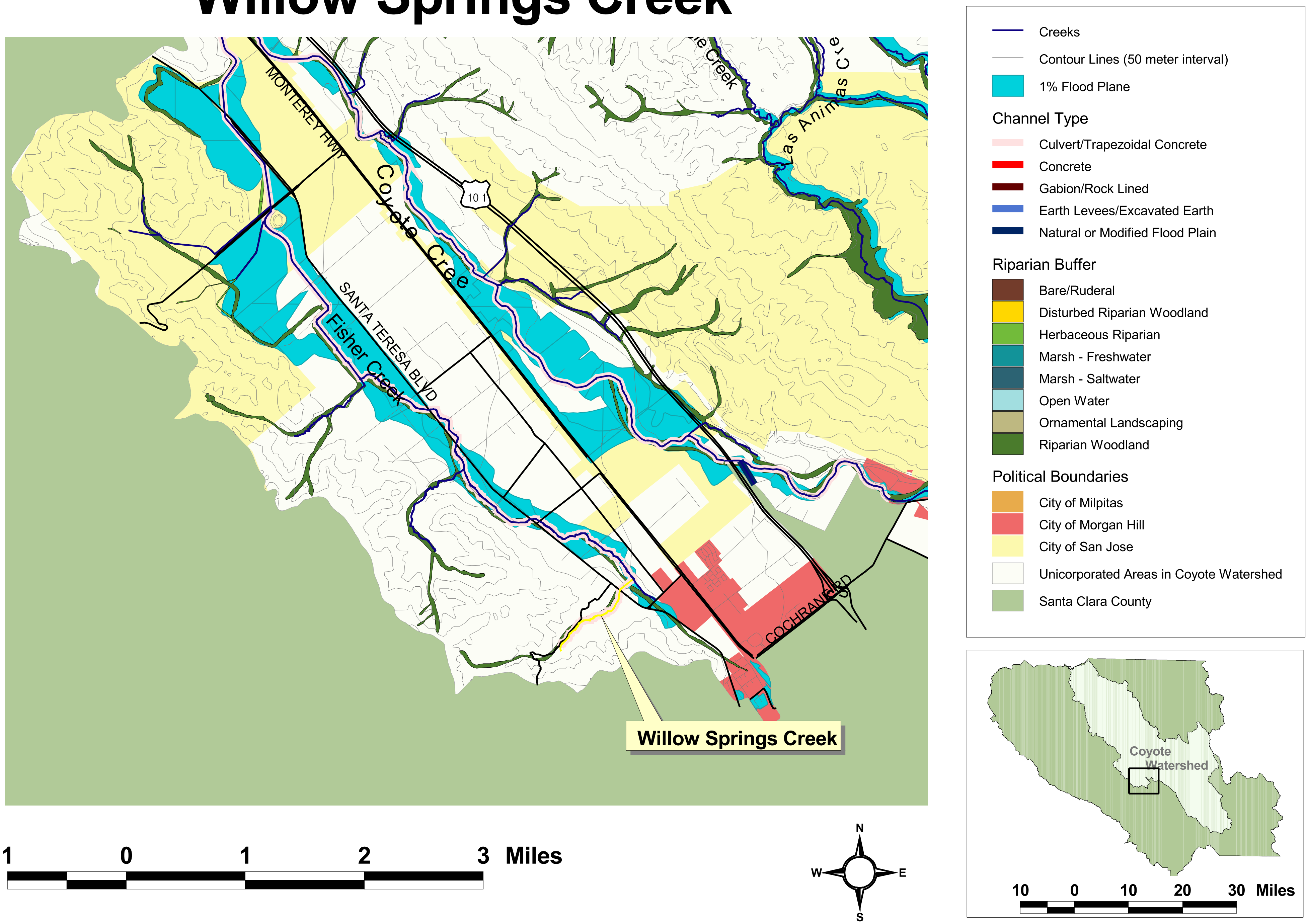
Linkages
Coyote Valley Greenbelt

Tributaries
None

TABLE C-27: WILLOW SPRINGS CONVEYANCE

Stationing		Creek Characterization
Beginning	End	
00+00	51+00	NAT

Willow Springs Creek



Wrigley-Ford Creek

This short creek parallels the Union Pacific Railroad alignment in Milpitas, and drains into Berryessa Creek. Most of the creek is located in underground culverts.

Floodplain

The following areas are located within the 1% floodplain:

- Virtually entire length of creek from Berryessa Creek to UPRR railroad (3000 ft)

Land Use

Located between two railroad lines, this creek is largely channelized.

Fish Ladders/Drop Structures/Blockages

None identified

Riparian/Vegetation

None identified

Candidate Projects

NA

Linkages

Road widening – Montague Expressway

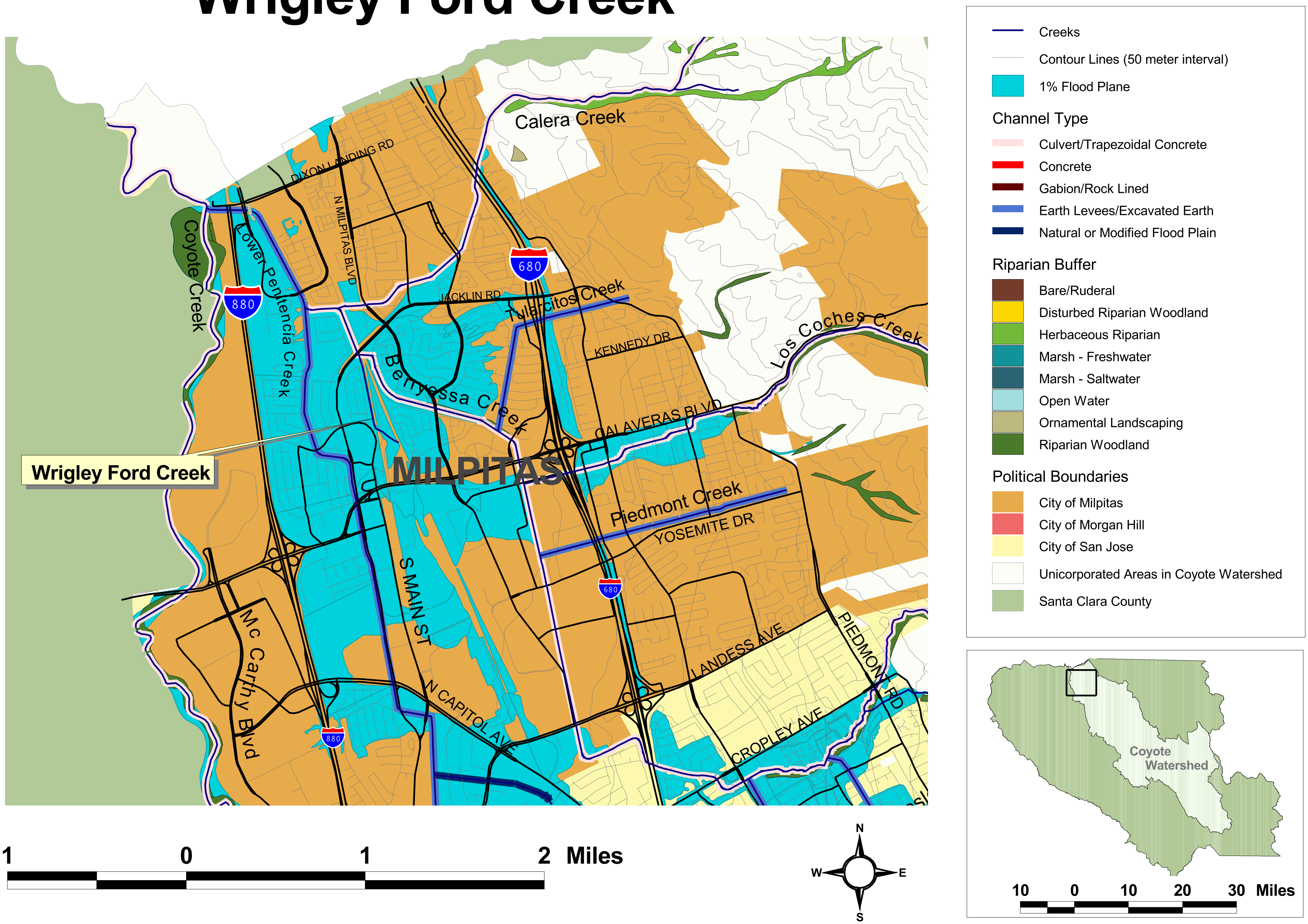
Tributaries

None

TABLE C-28: WRIGLEY-FORD CONVEYANCE

Stationing		Creek Characterization
Beginning	End	
00+00	25+00	EXC (b = 25 to 35 ft)
25+00	26+00	QUAD RCP (72-inch)
26+00	31+00	EXC (b = 30 ft)
31+00	32+00	TRIPLE RCP (96-inch)

Wrigley Ford Creek



Yerba Buena Creek

Yerba Buena Creek flows along Yerba Buena Road in the Evergreen Area, and drains into Thompson Creek near San Felipe Road.

Floodplain

The following areas are located within the 1% floodplain:

- None

Land Use

Largely natural, and borders a college on north, some residential and school on south.

Fish Ladders/Drop Structures/Blockages

NA

Riparian/Vegetation

Riparian Woodland vegetation is located on both sides of Yerba Buena Creek

Candidate Projects

- Acquire lands for biological corridors/riparian habitat areas

Linkages

Area of new development – Quimby Creek flows through the Evergreen Specific Plan area.

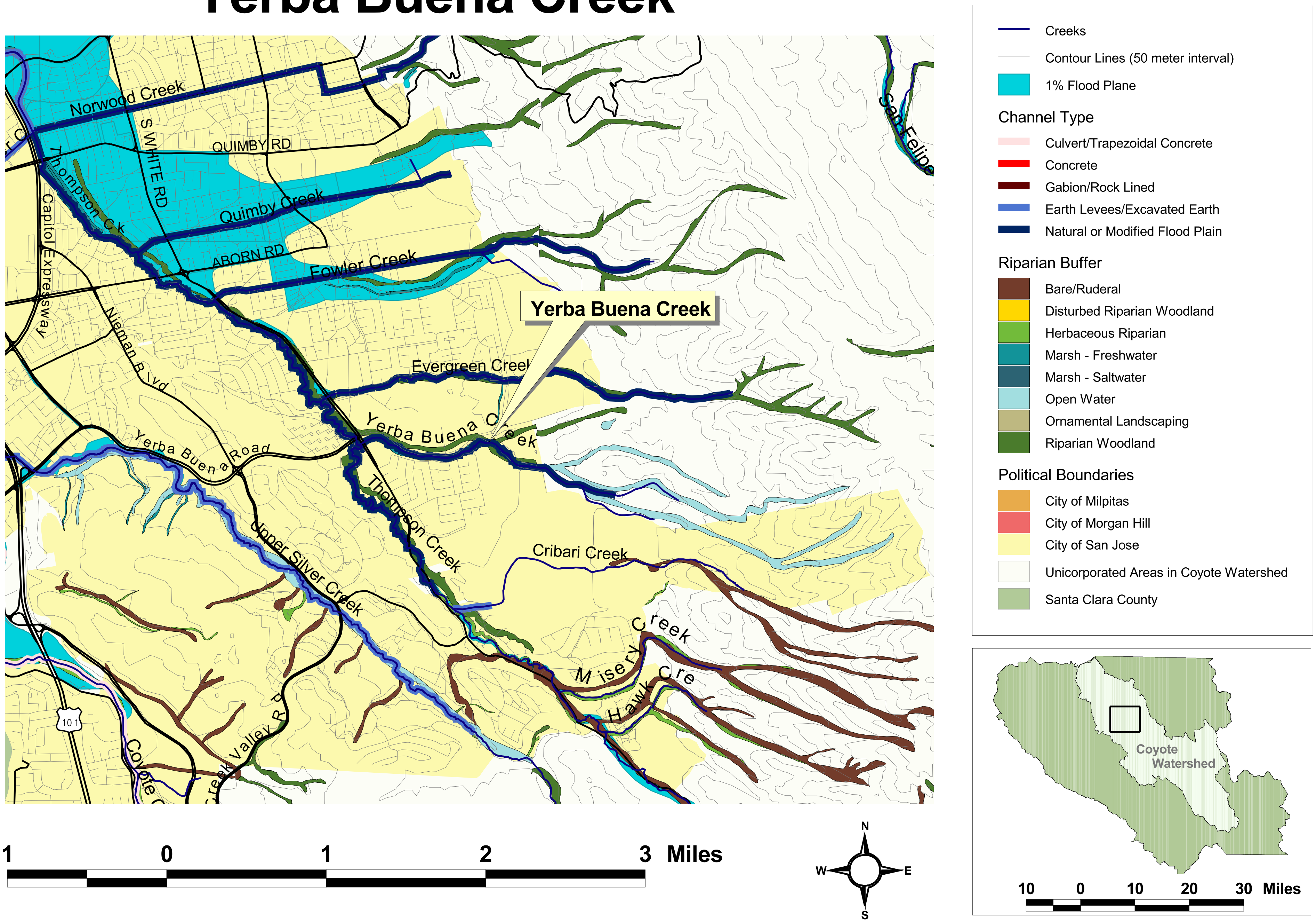
Tributaries

None

TABLE C-29: YERBA BUENA CONVEYANCE

Stationing		Creek Characterization
Beginning	End	
00+00	80+40	NAT (b = 3 to 5 ft)

Yerba Buena Creek



Berryessa/Calera Creek Flood Protection Project/Levee Repair	
Purpose:	To provide 1% flood protection to Berryessa Watershed, increase and improve riparian habitat, and increase and improve fishery migration. This project also remediates for flooding and freeboard inadequacies due to a missing tie-in of the easterly Berryessa and Calera Creek levee downstream of the Southern Pacific Railroad culvert.
Agency:	Reach 0 - SCVWD, Reaches 1 through 8 - USACOE Calera: SCVWD with the USACOE
Description:	The project, as proposed by the USACOE, spans 3.8 miles of existing Berryessa Creek and is broken into 8 reaches. **Reach 0** This reach begins at the confluence with Lower Penitencia Creek in Milpitas and is approximately 8,850 feet in length. The creek is bordered by residential development on both sides and parallels the UPRR for much of this reach. The creek goes through the center of Milpitas though a highly developed area. The upper limit of this reach is Calaveras Blvd. A study will evaluate levee stability and channel capacity, and recommend a preferred project for construction. **Reach 1** In this 800 ft reach, the existing earth slope, trapezoidal-shaped channel will be widened to 35 feet. Maintenance roads will be provided at the top of bank on both sides of the channel. The trapezoidal channel will be lined with concrete and have 1.5:1 side. The proposed improvements will conform at the upstream face of the Calaveras Blvd. Bridge. **Reach 2** In this 2,110 ft reach, the existing earth slope, trapezoidal-shaped channel will be widened to 27 feet for the first 1,000 feet. The trapezoidal channel will be lined with concrete and have 1.5:1 side slope. The rest of this reach will be constructed out of a concrete U-frame channel that is 27 feet wide. Maintenance roads will be provided at the top of bank (where ROW permits) on both sides of the channel. **Reach 3** In this 5,070 ft reach, a concrete U-frame channel with a bottom width of 24 feet will be constructed for the first 400 feet. The U-frame channel will be transitioned back to a trapezoidal shaped channel with a 12-foot bottom width and 1.5:1 side slopes. The UPRR Bridge has a significant skew to Berryessa Creek. In the GDM, it was decided to have a concrete U-frame channel, 23 feet wide, at the UPRR crossing. There will be a concrete trapezoidal shaped channel (12 feet wide) downstream and upstream of this UPRR railroad bridge. The channel then transitions from the trapezoidal channel back to a 23 feet wide U-frame channel 200 feet downstream of Montague Expressway. **Reach 4** In this 3,960 ft reach, a concrete lined U-frame channel with a 22-foot width will be constructed for most of the reach. In the last 150 feet, the channel transitions into a trapezoidal channel shaped (14 feet wide) to conform to the existing concrete lined trapezoidal channel at Interstate 680. Box culverts design and construction will

Berryessa/Calera Creek Flood Protection Project/Levee Repair

accommodate the planned widening of Montague Expressway in this area.

Reach 5
There is an existing concrete lined trapezoidal channel 14 feet wide in the first 1,600 feet of this reach. This existing channel will remain and construction improvements will conform at the upper end of this lined section. The entire length of the existing concrete trapezoidal channel will be utilized from upstream of the I-680 crossing to Cropley Avenue. The channel will be transitioned from the existing structure, 14-foot wide trapezoidal channel, to a 23-foot wide concrete lined, U-frame channel. A new culvert will be constructed beneath Cropley Avenue. The U-frame channel will be reduced in width from 23 feet to 20 feet wide for the last 1000 feet of this reach.

Reach 6
Upstream of the Sierra Creek confluence, the U-frame channel will be 17 feet wide for approximately 350 feet in length. It will then transition to a 25-foot bottom width. A 145 ft X 45 ft secondary sedimentation basin will be located immediately upstream. Levees will be constructed along the top of bank and around the sedimentation basin in this area.

Reach 7
Reach 7 begins at the top of the sedimentation basin at STA 257+55 and is approximately 3,500 feet in length. This area has mixed land use with mostly residential development on the south side of the creek. Thb right of way is much wider in this area. The upper limit of this reach is the stilling basin near Old Piedmont Road and Cropley Ave.

This reach includes construction of levees along the Right of Way adjacent to residential development. This reach of the project is referred to as the “greenbelt” region. In this reach the existing banks of the low flow channel will be stabilized using biotechnical features, but otherwise there will be few impacts to the existing creek. The levees will be constructed to contain the high flow events and the entire right of way will be used as the floodplain. A stilling basin will be constructed to reduce flow velocities from the discharge of the existing culvert beneath Old Piedmont Road.

Reach 8
Reach 8 begins at the stilling basin and is approximately 1,265 feet in length. This is the steepest part of the creek as it runs through residential development in the foothills.

At the existing box culvert beneath the intersection of Old Piedmont Road and Cropley Avenue, a concrete U-frame channel will be constructed at the upstream end of the box culvert. The primary sedimentation basin will be 310’ long by 175’ wide. It will be concrete lined with an earth bottom.

Berryessa Creek Levee Repair
In addition, a study will be conducted to determine the stability of the existing levee system and channel capacity along Berryessa Creek between the Lower Penitencia Creek confluence and Calaveras Boulevard, including the Calera Creek levees. The project also includes coordination with the Milpitas Trails Master Plan, District maintenance requirements and the USACOE project upstream of Calaveras Boulevard. The length of the project is 8,850 feet. The creek is bordered by residential development on both

Berryessa / Calera Creek Flood Protection Project / Levee Repair	
	sides, and traverses through the center of Milpitas in the highly developed area. A recommended method for repairing damaged levees, and design of the levees to protect area against a 100-year flood event will be recommended. **Calera Creek Flood Protection Project** In recent years flooding has occurred due to a low spot in the levee system located at the Southern Pacific (now Union Pacific) Railroad crossing. The District has constructed a temporary floodwall to prevent further flooding at this location. The final design for a permanent facility is underway. In addition, a new maintenance bridge over Calera Creek is to be incorporated into the design to provide continuous access along the eastern Berryessa Creek levee. Maintenance personnel report a significant amount of sediment accumulation occurring for a distance of roughly 500 to 600 feet, both upstream and downstream of Arizona Avenue, which has significantly affected the stream flow carrying capacity. Preliminary hydraulic evaluations performed by District personnel indicate that the channel, with this sediment accumulation, cannot carry the 100-year flow. Maintenance crews are planning for sediment removal, although it is uncertain how long before the accumulation will again become critical. In 1998, Nolte Associates performed a restudy of Calera Creek for FEMA. The limits of the Restudy extended from the confluence with Berryessa Creek upstream to Escuela Parkway. The most significant result of this restudy showed that a large area of Milpitas is now included in the 1% flood zone. Just upstream of Escuela Parkway is a relatively wide section of stream channel. This section, as previously noted, has a relatively flat slope that promotes sedimentation. A number of people in the Milpitas Engineering Department have voiced concern about the amount of sedimentation and the adverse affects on capacity. District personnel, however, do not agree that this sedimentation is causing a capacity problem. There are several significant that should be addressed in a comprehensive, integrated study. The study will include: • Investigation of the appropriate hydrology. • Hydraulic evaluation of the creek upstream of Escuela Parkway. • Evaluation of alternatives to address the inadequate channel capacity downstream of Escuela. • Evaluation of the sediment problem and how to best manage it.
Contact:	Jose Gutierrez, Coyote Watershed Program, (408) 586-0110
Location:	Berryessa Creek between Calaveras Boulevard and Old Piedmont Road (3.8 miles), Calera Creek at between Berryessa confluence and SPRR culvert
Sampling Info:	Mitigation and monitoring plan to be developed as project environmental documentation is prepared.
Status:	Originally, design was to be completed in 1996. The project has been on hold and needs to be re-evaluated. The SCVWD's study on levee stability and capacity will be completed by April 2001 and design will be completed by 2002. The USACOE will prepare the GRR/EIR/SEIS for Reaches 1 through 8 by April 2001.

Berryessa/Calera Creek Flood Protection Project/Levee Repair		
Timeline (ACOE):	January 2001 June 2002 August 2002 March 2003 June 2005	Begin Planning Environmental/Permitting Design commences Construction NTP Project construction complete
Timeline (Levee):	January 2001 January 2002 January 2002 April 2002 October 2003	Begin Planning Environmental/Permitting Complete Design Construction NTP Project construction complete
Issues/Linkages:	Reach 4: Montague expressway widening Calera Creek Flood Protection Project Stream Maintenance Program I-680 Widening	

Lower Silver Creek Flood Protection Project	
Purpose:	To protect watershed from a 1% flood, provide fish passage and improve riparian habitat by eliminating barriers, constructing a low-flow channel with resting pools and planting vegetation along the creek.
Agency:	SCVWD, Natural Resources Conservation Service
Description:	**Reach 1** In this reach, the creek will be widened to accommodate the anticipated flood flows and riparian mitigation plantings. Approximately half the length includes a six-foot wide low flow channel with tree planting to provide shaded areas. The proposed side slopes are typically 2:1 and constructed out of earth. In some locations where the slope is steeper, alternate slope treatments are needed and floodwalls are proposed. An architecturally treated concrete lining will be provided in areas in the trapezoidal channel where there is limited right of way. **Reach 2** Reach 2 stretches from Miguelita Creek to McKee Road, 1,315 feet in length. In this area the creek is adjacent to residential development and parallel to King Road in some areas. The right of way is very limited in this area so a concrete U-frame channel is proposed to convey flows. A few riparian plantings are proposed on the west side of the creek above the concrete channel. **Reach 3** Reach 3 begins at McKee Road and stretches 6,880 feet to I-680. In the first 1,600 feet, the creek will be widened and a six-foot wide low flow channel is proposed. The proposed side slopes are typically 2:1 and constructed out of earth. When the right of way is more restricted a trapezoidal shaped concrete lining is proposed. The last 1,600 feet of channel will also be widened and include a six foot wide low flow channel with earth side slopes at 2:1. **Reach 4** Reach 4 extends from I-680 to North Babb Creek, a total of 3,820 ft. In this reach the creek will be widened and a low flow channel will be provided, but the slopes are steeper and alternate type of slope protection are recommended such as stacked blocks. Throughout most of this reach, floodwalls are proposed at the top of bank. **Reach 5** Reach 5 stretches from North Babb Creek to South Babb Creek confluence, approximately 2,930 ft. In this reach of creek, the channel will be widened, although not as much as downstream, and include a 6 foot wide low flow channel. The side slopes will be steeper in this area and requires some alternate type of slope protection such as stacked blocks. In areas where it is steeper, floodwalls may be needed. **Reach 6** Reach 6 stretches from South Babb Creek to Cunningham Avenue, a total of 4,020 ft. In the first 1,600 feet, the project will be widened to 50 feet and include a low-flow channel. The slopes are steeper and will require alternate types of slope protection, such as stacked blocks. Where there is more right-of-way available, the creek will be widened to

<table>
<tr><th colspan="6">Lower Silver Creek Flood Protection Project</th></tr>
<tr><td></td><td colspan="5">80 feet. Slope protection is still required in this area. Floodwalls are also proposed at the top of bank.

This proposed construction cost estimate for all six reaches (planning level estimate) $29.5 million (1998 dollars).</td></tr>
<tr><td>Contact:</td><td colspan="5">Reaches 1-3: Connie Eichhorn, Coyote Watershed Program, (408) 586-0110
Reaches 4-6: Jay Aldean, Coyote Watershed Program, (408) 586-0110</td></tr>
<tr><td>Location:</td><td colspan="5">Between Coyote Creek confluence and Cunningham Avenue</td></tr>
<tr><td>Sampling Info:</td><td colspan="5">NA</td></tr>
<tr><td>Status:</td><td colspan="5">Ongoing</td></tr>
<tr><td rowspan="4">Timeline:</td><td>Reach/Project</td><td>1 & 2</td><td>3</td><td>4</td><td>5 & 6</td></tr>
<tr><td>100% Design Complete</td><td>March 2001</td><td>March 2001</td><td>May 2001</td><td>June 2001</td></tr>
<tr><td>Begin Construction</td><td>July 2001</td><td>July 2001</td><td>May 2002</td><td>May 2002</td></tr>
<tr><td>Project Complete</td><td>Oct. 2002</td><td>Oct. 2002</td><td>Oct. 2002</td><td>Oct. 2002</td></tr>
<tr><td>Issues/Linkages:</td><td colspan="5">Stream Maintenance Program</td></tr>
</table>

Rock Springs Flood Protection Project		
Purpose:	To provide 1% flood protection to the Rock Springs neighborhood in San Jose and reduce stormwater pollution of receiving waters.	
Agency:	SCVWD with USACOE	
Description:	The Rock Springs neighborhood suffered severe damages during an estimated 15-year flood in January 1997. Approximately 25 apartment buildings flooded at the time, and it was identified that improved flood protection would be required in the area. This neighborhood is upstream of recently completed flood protection projects on Coyote Creek. This is a fast-track project being managed by the Coyote Watershed Program.	
Contact:	Lidia Gutierrez, Coyote Watershed Program, (408) 586-0110	
Location:	Coyote Creek between Phelan Ave and Wool Creek Drive	
Sampling Info:	NA	
Status:	The District and USACOE agreed on January 4, 2000, to enter into a $1.16 million three-year feasibility study in a 50/50 partnership. Working to complete Draft Feasibility Report, Environmental Impact Statement	
Timeline:	January 2001: October 2002: September 2003: October 2003: October 2005:	Design NTP Environmental Complete Design Construction NTP Complete Construction
Issues/Linkages:	Streamflow Augmentation	

Silver/Thompson Flood Protection Project		
Purpose:	This project will provide protection from the 1% flood event to portions of Lower Silver and Thompson Creek. In addition, there will be mitigation for impact to approximately 12 acres of wetlands.	
Agency:	SCVWD	
Description:	This project will review and revise the existing hydrology for the watershed area above Lake Cunningham. In conjunction with hydrology review, the project will study the sedimentation load from the watershed to Lake Cunningham. All permits to perform maintenance work along Lower Silver Creek between Cunningham Avenue and Quimby will be obtained, and all necessary channel improvements between Aborn Road and Lake Cunningham will be designed and constructed.	
Contact:	Lidia Gutierrez, Coyote Watershed Program	
Location:	Lower Silver and Thompson Creeks	
Sampling Info:	NA	
Status:	Design NTP about to be issued	
Timeline:	December 2000 May 2001 November 2001	Design NTP Construction NTP Project Complete
Issues/Linkages:	Stream Maintenance Program	

South Bay Mobile Home Park Flood Wall		
Purpose:	Fast-track of design, coordination and construction of 1% flood protection for mobile-home park along the west bank of Coyote Creek	
Agency:	SCVWD, with USACOE	
Description:	Design, implement and coordinate efforts to protect areas against 1% flood, including replacing existing wall with a new floodwall. Coordination is required with local landowners and Union Pacific Railroad. The first alternative would be to remove the existing structure and replace it with a floodwall. The floodwall will be built on the same spot as the existing structure. It will be designed to protect the mobile home park from the 100-year event and also provide a minimum of 3 feet of freeboard. The second alternative is the similar to the first but the floodwall will be built on the mobile home park property. More specifically, it will be located against the existing fence that separates the railroad property from the mobile home park. The same design standards will be used for this wall. The third alternative will involve completing the existing levee system. Currently the levee along the west bank is discontinuous between the Granite Rock property and the mobile home park. Due to objections from various landowners at the time the levees were built, the District was not able to obtain right-of-way and therefore did not construct the levee. Because of the missing section of levee, the area is continuously vulnerable to flooding during significant wet weather events. The best solution for the area would be to build the remaining section of levee. This alternative would involve coordination with the railroad, City and the surrounding landowners.	
Contact:	Lidia Gutierrez, Coyote Watershed Program, (408) 586-0110	
Location:	Coyote Creek near Old Oakland Road	
Sampling Info:	NA	
Status:	Planning is underway	
Timeline:	February 2000 March 2000 November 2000	Design Report Construction NTP Project complete
Issues/Linkages:	NA	

Upper Penitencia Creek Flood Protection Project	
Purpose:	To provide for 1% flood protection within the Upper Penitencia Watershed.
Agency:	SCVWD, USACOE, City of San Jose (Reach 1)
Description:	In the Upper Penitencia Creek Watershed Plan, five alternatives were developed and evaluated. All five alternatives included the same recommended improvements downstream of Piedmont Road. Upstream of Piedmont Road the variations between the alternatives included evaluating bypass channels, floodproofing, and modifying the flood plain. All the alternatives included some vegetation removal. The preferred alternative is a combination of flood plains, flood proofing, and a bypass channel. The existing creek will remain much the same as it is today. A parallel bypass channel will be constructed to accept higher flows for much of the creek. The total length of Upper Penitencia is approximately 3.6 miles in length. The preferred alternative is broken into seven reaches that are described below. **Reach 1** Reach 1 begins at downstream end of Upper Penitencia Creek at the confluence with Coyote Creek, and extends to approximately 200 ft east of King Road, 2,320 ft total. King Road is currently a two-lane road in this area, and is to be widened to four-lanes. A new concrete bypass channel is proposed for this reach. The new trapezoidal channel will be constructed approximately 200 feet south of the existing bridge crossing on King Road, and empty into Coyote Creek upstream of the existing Upper Penitencia Creek confluence. This reach includes the following features: • Drop structure at confluence • Trapezoidal concrete bypass channel from confluence to railroad crossing • Triple box culvert under WPRR crossing • Rectangular concrete bypass channel from railroad crossing to King Road • Triple box culvert under King Road **Reach 2** Reach 2 extends from King Road to Jackson Avenue, approximately 4,860 feet in total length. Approximately 400 feet east of King Road, the new concrete bypass channel crosses the existing Upper Penitencia Creek. From this point upstream, the bypass is an open earth channel (with some rock slope protection) parallel to the existing creek with a bottom width that varies between 50 and 90 feet. The side slopes are mild and are typically at 5:1. The existing creek will remain as the primary low flow channel up to Jackson Avenue. This reach includes the following features: • Rectangular concrete bypass channel from King Road (for 475 feet) • Concrete flume over existing channel (Bypass begins on south side and flume takes channel to north side of creek) • Drop structure at outlet of flume • Rock line trapezoidal bypass channel from drop structure to Jackson Avenue • Install overflow weir on west bank just upstream of Mabury Before this reach can be completed, the City of San Jose must complete construction of the proposed Jackson Avenue Bridge.

Upper Penitencia Creek Flood Protection Project

Reach 3

Reach 3 begins at Jackson Avenue is approximately 2,700 feet in length. There is residential development on the south side of the creek and agricultural land on the north side. The upper limit of this reach is Capitol Avenue.

Between Jackson Avenue and I-680, additional right of way must be purchased for the proposed improvements. Most of the channel widening improvements in this reach will be similar to Reach 2 (a parallel earth bypass on the north side of the existing creek). Approximately 700 feet of the existing channel will be enlarged and lined with rock beneath I-680. This reach includes the following features:

- Rock lined trapezoidal bypass channel for entire reach
- Must realign existing creek and bike trail at I-680 to go under existing bridge
- Install weir downstream of Capitol Avenue
- Add box culvert to existing bridge at Capitol Avenue
- Install new 0.4 acre percolation pond upstream of I-680

Reach 4

Reach 4 extends from Capitol Avenue to the Penitencia Creek Bridge, and is approximately 3,010 feet in length. In this reach of creek, there is residential development on the north side of the creek and mixed land use on the south side of the creek.

In the lower portions of this reach (first 800 feet) the flood plain will be modified, and new levees will be built on both sides of the existing creek. The levees will be at least 10-20 feet outside the existing top of bank. Construction of these levees may require the purchase of additional right of way. The remaining portion of this reach will include construction of floodwalls on the north side of the existing creek. A levee will be constructed on the south side of the existing creek. The existing low flow creek and trees will remain undisturbed. The features of this reach are described below:

- Grouted rock drop structure at Station 100+00
- Grade stabilizers will be installed at regular intervals
- Mitigation site will be regraded and created on the upstream of Capitol Avenue
- Four foot high floodwalls will be constructed in areas where it is too narrow to build a levee
- Install new bridge at Penitencia Creek Road and incorporate bike and pedestrian trail at bridge

Reach 5

Reach 5 extends from Penitencia Creek Bridge to Piedmont Road and is approximately 2,320 feet in length. The south side of the creek contains largely residential development with undeveloped land on the north side.

The flood plain will be modified to take advantage of the undeveloped area on the north side of the creek. This area will be regraded, and a drainage swale will be provided to direct the flow downstream towards the existing creek. A levee will be constructed on the north side of the modified flood plain. The existing creek will be left “as is”. Either a floodwall or levee will be constructed on the south side of the existing creek (at the top of bank) along Penitencia Creek Road. The features of this reach are described below:

Upper Penitencia Creek Flood Protection Project

- Install combination of floodwalls and levees on south side against Penitencia Creek Road
- Install levees on north side throughout reach
- Regrade existing floodplain on north side of the Penitencia Creek bridge to drain towards the bridge
- Install control structure at downstream of Piedmont Road to regulate flow (During flood events excess flow will be diverted to floodplain)
- Remove and replace one driveway bridge

Reach 6

Reach 6 extends from Piedmont Road to Noble Avenue, and is approximately 2,800 feet in length. This reach runs through a residential area and past the SCVWD percolation ponds.

The current creek alignment and configuration will be maintained, but new floodwalls will be constructed along the both sides of the right of way up to the percolation ponds. A levee will be constructed between the percolation ponds and the existing creek. The features of this reach are described below:

- Create modified floodplain
- Install floodwall along south side of Penitencia Creek Road against backyards of buildings (Provide stairs and handicap access at walkways)
- Install combination of floodwalls and levees on north side of creek
- Raise intersections where floodwall crosses
- Modify existing outlet to percolation ponds
- Remove two driveway bridges but only replace one

Reach 7

Reach 7 extends from Noble Avenue to Dorel Drive, and is approximately 1900 feet in length. In this reach there is residential development on both sides of the creek. In this area the flood plain is outside the existing creek and over the top of Penitencia Creek Road. Few channel modifications are proposed in this reach. The features of this reach are described below:

- Modify existing diversion structure
- Widen spillway to percolation ponds and install fish ladder
- Raise the intersection of Tallent Avenue and Penitencia Creek Road by four feet
- Floodproof up to fourteen homes

The projected cost of the project is between $27-$34 million.

Contact:	Jose Gutierrez, Coyote Watershed Program, (408) 586-0110
Location:	Flood Protection: Penitencia Creek between Dorel Drive and Coyote Creek Bypass channel: Penitencia Creek, between King Road and Coyote Creek Fish Ladders: Penitencia Creek at Noble and Mabury Avenues Mitigation planting: Upstream and downstream of I-680 at Penitencia Creek
Sampling Info:	NA
Status:	SCVWD is currently working on initial feasibility study

Upper Penitencia Creek Flood Protection Project		
Timeline:	Reach 1:	
	July 2000	Begin Planning/Design
	February 2001	Complete Environmental
	May 2001	Complete Design
	October 2001	Construction NTP
	October 2003	Finish Construction
	Reaches 2-6:	
	January 2006	Begin Design
	July 2006	Begin Construction
	May 2008	Finish Construction
Issues/Linkages:	King Road widening Jackson Avenue Bridge Berryessa Avenue widening VTA Tasman East Light Rail construction	

<table>
<tr><th colspan="3">Coyote Creek Outdoor Education Classroom</th></tr>
<tr><td>Purpose:</td><td colspan="2">To provide both a riparian mitigation area and outdoor learning classroom.</td></tr>
<tr><td>Agency:</td><td colspan="2">SCVWD, with linkages to CDFG and USGS</td></tr>
<tr><td>Description:</td><td colspan="2">During the 1997 Coyote Creek flooding, three houses were substantially damage. As part of the District's Voluntary Property Acquisition Program for Flood Hazard Mitigation, the three homes were purchased by the District and cleared, creating 1.5 acres of open space.

The Outdoor Education Classroom area was originated to serve multiple purposes, including the creation of a riparian mitigation area, a flood education center and allows for the construction of a trail along Coyote Creek (easement to be allocated for future City of San Jose project). The site is to be revegetated with riparian and upland terrace plantings, and an outdoor flood educational center will also be constructed for public education or local school children.</td></tr>
<tr><td>Contact:</td><td colspan="2">Lidia Gutierrez, Coyote Watershed Program, (408) 586-0110</td></tr>
<tr><td>Location:</td><td colspan="2">Coyote Creek at William Street</td></tr>
<tr><td>Sampling Info:</td><td colspan="2">NA</td></tr>
<tr><td>Status:</td><td colspan="2">Groundbreaking on the project occurred during May 2000. Project scheduled to be completed by November 2000.</td></tr>
<tr><td>Timeline:</td><td>March 2001
Summer 2001</td><td>Award Contract for Construction
Complete Construction</td></tr>
<tr><td>Issues/Linkages:</td><td colspan="2">Riparian Restoration Action Plan – (Across street)</td></tr>
</table>

Factors Affecting the Distribution of Lotic Macroinvertebrates in an Urban Setting		
Purpose:	To determine the factors that most influence the distribution of stream macroinvertebrates in an urban environment.	
Agency:	USGS	
Description:	Relates the distribution of lotic macroinvertebrates to site- and basin-scale physical, chemical and geomorphological variables. Determine how these factors vary within and among sub-basins and determine the rate of longitudinal change. Explore relationships between variables driving the distribution of lotic macroinvertebrates and measures of urbanization, such as population density, percentage impervious area, etc.	
Contact:	Dr. James Carter, USGS, (650) 329-4439	
Location:	Coyote Creek and Upper Penitencia Creek	
Sampling Information:	At 2 km intervals, starting at the mouth of each stream, analyses were conducted for invertebrates, DO, pH, conductivity, nitrite, nitrate and geomorpholocial measurements.	
Status:	Ongoing	
Timeline:	1997	Project began, ongoing as funding is available
Issues/Linkages:	SCVURPPP	

Fisheries and Aquatic Habitat Collaborative Effort (FAHCE)		
Purpose:	Identify the contribution of SCVWD facilities and operations to existing fishery habitat conditions within the context of the variety of factors impacting salmon and steelhead populations, and identify reasonable flow and non-flow measures that will improve habitat conditions for such fish populations within the context of competing water and land use demands.	
Agency:	SCVWD with the California Department of Fish and Game	
Description:	The goal of the FAHCE process is to provide a technical basis for policy decisions regarding habitat quality and quantity, aquatic quality and quantity, flow regimes and measures that can change one of the above. Management actions that can improve one or more of these criteria will also be further investigated. Attempt to coordinate and collaborate on data collection with other stream studies, including SCVWD flood control projects, RWQCB water quality monitoring and City of San Jose streamflow augmentation project. In an attempt to improve conditions for endangered fish in local streams throughout the summer, the District is slowly decreasing the amount of water released from three Santa Clara County reservoirs into creeks. These actions are expected to help created colder-water habitats for Chinook salmon and steelhead trout in Stevens, Guadalupe and Calera creeks.	
Contact:	Scott Akin, SCVWD, (408) 265-2607 X2060	
Location:	Coyote Creek, Upper Penitencia Creek	
Sampling Info:	Determination of toe-to-toe channel widths, stream depth, proportion of bankside cover that is woody debris, riparian vegetation, undercut bank, boulder, aquatic vegetation, bank stability, instream cover complexity, residual pool volume index, stream substrate, degree of sedimentation, area affected by fine sediment, sediment sources, area of salmonid spawning gravel, terrestrial drift potential, benthos production potential, salmonid habitat quality, constraints to salmonid habitat quality, potential salmonid migration barriers, temperature, dissolved oxygen	
Status:	Stevens Creek completed, working on Coyote Creek	
Timeline:	Summer 2000	Begin monitoring water temperature in Stevens Creek, Guadalupe and Calero reservoirs
	December 2000	Estimated completion date
Issues/Linkages:	Upper Penitencia Flood Protection Project Santa Clara Valley Urban Runoff Pollution Protection Program Streamflow Augmentation Reservoir Operations and Maintenance	

Riparian Restoration Action Plan	
Purpose:	The Riparian Restoration Action Plan (RRAP) is intended to provide an overall policy framework outlining rationale, standards and responsibilities for riparian restoration projects in the City of San Jose. The primary purpose of the RRAP is to identify strategies for enhancing and restoring riparian and instream habitat values and improving water quality along the streams contained in the City's Urban Service Area (USA). Specifically, the RRAP aims to: • Provide an overview of existing stream corridor conditions in the USA • Summarize existing programs and policies that may affect implementation of riparian restoration efforts in the USA • Identify general goals and improvements strategies that should guide USA restoration projects • Identify opportunities for, and constraints on, riparian restoration activities in the USA • Summarize implementation strategies for riparian restoration activities • Identify potential sources of funding for riparian restoration. • Outline applicable local, state and federal regulatory policies that may affect implementation of riparian restoration activities in the USA. • Identify potential projects and programs for short-term and long-term implementation • Provide an overview of additional focused technical studies, data acquisition programs and detailed construction plans that may be required to implement site-specific restoration projects.
Agency:	City of San Jose
Description:	Existing conditions of riparian corridors throughout San Jose were identified and evaluated. The potential for environmental restoration was evaluated based on a number of factors, including: • Sediment removal area (if true, -1) • Erosion control focus areas (if true, +2) • Stream corridor condition (more unmodified, more +) • Vegetation (if false, +1) • Flood frequency (more flood capacity, more +) • Land ownership (if adjacent to public/semi-public lands, +1) • Recreation (if existing or proposed trail w/easement, +1) Reaches of every stream in San Jose were characterized and ranked. The more positive the score, the higher the priority for restoration. Within the Coyote Watershed, the highest scores occurred along Thomson Creek and Fisher Creek. Restoration and implementation strategies were proposed, along with suggested funding avenues.
Contact:	Tara Kelly, City of San Jose, (408) 277-4576
Location:	Throughout the City of San Jose
Sampling Info:	NA

Riparian Restoration Action Plan		
Status:	Comments on Public Draft Action Plan are currently being submitted, Final Action Plan is to go to City Council during October 2000	
Timeline:	February 2000 October 2000	Public Draft RRAP released Final RRAP to be approved by City Council
Issues/Linkages:	Riparian Corridor Policy Study	

Stream Maintenance Program	
Purpose:	This program will provide long-term guidance to the District to effectively implement routine stream maintenance projects in a cost-effective and environmentally-sensitive manner. The Stream Maintenance Program is a process and policy document that will be adopted by the District and used in obtaining long-term permits for routine stream maintenance activities from regulatory agencies.
Agency:	SCVWD - Project Management and Maintenance Watershed Units and Environmental Resources Unit, Community stakeholders, environmental advocacy groups, and regulatory agencies primarily the USACOE, RWQCB, California Department of Fish and Game (CDFG), and also involving the Environmental Protection Agency (EPA), BCDC, the National Marine Fisheries Service (NMFS), and the United States Fish and Wildlife Service (USFWS). The Federal Emergency Management Agency (FEMA) is indirectly involved since the Stream Maintenance Program must comply with FEMA's flood insurance program requirements if the District wishes to remain in the national insurance program.
Description:	Sediment removal and bank stabilization is required to protect existing flood protection facilities and ensure conveyance of flood flows. The District periodically performs these activities throughout their service area as needed. Projects completed under this initial study/mitigated negative declaration are primarily two types: sediment removal and erosion repair. Within the Coyote Watershed, the following projects are proposed for 2001: **Sediment removal** • Berryessa Creek – Milpitas Blvd to Calaveras • Berryessa Creek – Cropley to Morrill • Berryessa Creek – d/s Sierra Creek • Berryessa Creek – u/s and d/s Piedmont Creek • Calera Creek – u/s Escuela Parkway • Calera Creek – u/s UPRR • Coyote Creek – u/s Lower Penitencia Creek confluence • Flint Debris Basin – u/s Mount Pleasant Road • Los Coches Creek – Dempsey to I-680 • Los Coches Creek – underneath I-680 • Sierra Creek – d/s Mauna Kea **Erosion repair** • Coyote Creek – u/s Lower Penitencia Confluence • Lower Penitencia Creek – d/s Redwood • Thompson Creek – d/s Pettigrew Ct. These projects will combine to remove a total of 27,980 cubic yards of sediment, and repair 665 feet of streambank erosion.
Contact:	Jason Christie, SCVWD, (408) 265-2607
Location:	See above
Sampling Info:	Sediment, testing for 17 metals (CAM 17), pesticides, PAHs, petroleum products, toxicity, moisture content and grain size.

Stream Maintenance Program		
Status:	Year 2000 sediment removal projects are complete, with some rolling over to 2001. A permit to perform 2001 sediment removal projects is currently being obtained. Sediment removal and erosion repair activities will likely occur during the dry weather season, which typically lasts between June 1 and October 15.	
Timeline:	Early 2001	Draft Stream Maintenance Program and associated EIR public review planned
	June 2001	Regulatory clearances
	2001 - future	Ongoing implementation after finalization of the EIR and receipt of 10-year permits.
Issues/Linkages:	Various Flood Protection Projects Sediment analysis	

Santa Clara Basin Watershed Management Initiative	
Purpose:	In order to address all sources of pollution that threaten the Bay, and to protect water quality throughout Santa Clara Basin watersheds, the Santa Clara Basin Watershed Management Initiative (WMI) was initiated in 1996 by the U.S. Environmental Protection Agency, the State Water Resources Control Board and the San Francisco Bay Regional Water Quality Control Board. In the past, specific issues affecting watersheds have been addressed by separate regulatory actions, resulting in a "patchwork" approach. A major aim of the WMI is to coordinate existing regulatory activities on a basin wide scale, to ensuring that problems efficiently and cost-effectively. The key goals of the initiative are: • Ensure that the WMI is a broad, consensus-based process. • Ensure that necessary resources are provided for WMI implementation. • Simplify compliance with regulatory requirements without compromising environmental protection. • Balance the objectives of water supply management, habitat protection, flood management and land use to protect and enhance water quality. • Protect and/or restore streams, reservoirs, wetlands and the Bay for the benefit of fish, wildlife and human uses. • Develop an implementable Watershed Management Plan that incorporates science and will be continuously improved. • A fresh approach. The WMI is a new way of doing business that allows for effective coordination between a variety of agencies and stakeholder interests. This effort is vitally important because of the many jurisdictional boundaries that overlie the basin. The WMI will meet these challenges to preserve and protect our unique environmental heritage.
Agencies:	Partnership with many local, state, federal and non-governmental organizations, including: California Restaurant Association City of Palo Alto City of San Jose City of Sunnyvale CLEAN South Bay County of Santa Clara Department of Fish and Game Guadalupe-Coyote Resource Conservation District Home Builders Association of Northern California League of Women Voters San Francisco Bay Bird Observatory San Francisco Bay Regional Water Quality Control Board San Francisco Estuary Institute San Jose/Silicon Valley Chamber of Commerce San Mateo County Environmental Health Santa Clara Cattleman's Association Santa Clara County Farm Bureau Santa Clara County Streams for Tomorrow

Santa Clara Basin Watershed Management Initiative	
	Santa Clara Valley Audubon Society Santa Clara Valley Urban Runoff Pollution Prevention Program Santa Clara Valley Water District Silicon Valley Manufacturing Group Silicon Valley Toxics Coalition US Environmental Protection Agency Region 9: San Francisco USDA Natural Resources Conservation Service Valley Transportation Authority Western Waters Canoe Club
Description:	The WMI is reviewing the Plan through the Coyote Watershed Subgroup, which is hosted by the Flood Management Subgroup.
Contact:	Alice Ringer, City of San Jose, Project Coordinator, (408) 945-3024 http://www.scbwmi.org
Location:	Throughout Santa Clara Basin, including the entire Coyote Watershed
Sampling Info:	NA
Status:	Watershed Characteristics Report – Abridged version was released May 2000. Watershed Action plan scheduled to be released by December 2001.
Timeline:	December 2000: Watershed Assessment Report June 2001 Alternatives Watershed Management Report December 2001: Watershed Action Plan
Issues/Linkages:	Numerous Potential Linkages

Environmental Enhancement – Recycled Water Augmentation of Coyote Creek		
Purpose:	To deliver up to 8 million gallons per day (MGD) of recycled water to augment existing potable water supplied to the creek.	
Agency:	City of San Jose, with the SCVWD	
Description:	The proposed project is the first step in testing the feasibility of using recycled water for the beneficial uses in the South Bay. The project represents a commitment to an experimental program that will determine whether the release of recycled water into Coyote Creek during summer low-flow conditions can create and maintain stream conditions that enhance the aquatic environment and can support cold water fish species. Recycled water from the San Jose/Santa Clara Water Pollution Control Plant will be dechlorinated and cooled prior to discharge into Coyote Creek between May 1 and October 31. The proposed project requires the construction and operation of a portable dechlorination unit, a series of evaporative cooling towers and mechanical chillers, and the connection of the system to recycled water, storm water and sanitary sewer pipelines. The system would be monitored for a minimum of three years, in order to understand the environmental effects of using recycled water as a supplemental water supply for the enhancement and maintenance of the Coyote Creek ecosystem. The ecosystem monitoring program will include detailed measurements of water quality conditions, fisheries and benthic populations, as well as instream vegetation.	
Contact:	Don Arnold, City of San Jose, (408) 945-3740	
Location:	Coyote Creek at Capitol Expressway, Singleton Landfill.	
Sampling Info:	At four points between Standish Dam and Capitol Expressway, sample for salinity, temperature, total organic carbon, DOC, total suspended solids, total dissolved solids, trace metals, nutrients, species numbers, toxicity, nuisance vegetation, macroinvertebrates and sediment grain size.	
Status:	Environmental documentation currently being prepared	
Timeline:	2002	Tentative scheduled on-line date
Issues/Linkages:	Fisheries and Aquatic Habitat Collaborative Effort	

First Flush Monitoring Project		
Purpose:	Collect and analyze samples from major storm drain outfalls to identify relative magnitude of pollutants in different sectors of stormwater system.	
Agency:	City of San Jose, Environmental Services Department	
Description:	Goal is to model storm water runoff and perform a loads assessment to determine where major sources of pollutants are originating. Results may influence how stormwater programs are implemented.	
Contact:	Dave Grabiec, City of San Jose, (408) 945-3028	
Location:	Twelve sites along Coyote and Lower Penitencia Creek	
Sampling Info:	Toxic metals, pesticides, PCBs, PAHs, TSS, nitrates, phosphates, oil and grease	
Status:	Sample at first effective rainfall and every opportune rainfall event of the wet weather season.	
Timeline:	April 1998	Ongoing project since inception
Issues/Linkages:	Santa Clara Basin Watershed Management Initiative Santa Clara Valley Urban Runoff Pollution Prevention Program	

SW monitoring to Support Illicit Connection/Illegal Discharge (IC/ID) and Industrial Inspection Programs		
Purpose:	The goal of the IC/ID control measures is to identify and eliminate non-permissible non-storm water discharges associated with illegal dumping or illicit connections to the storm drain system.	
Agency:	SCVURPPP, City of San Jose	
Description:	EPA regulations and the Santa Clara Basin Plan require that operators of municipal storm drainage systems actively seek to eliminate non-stormwater discharges that can contain significant amounts of pollutants. The SCVURPPP developed a model performance standard for IC/ID activities, which includes: • Assignment of personnel and resources to enforce prohibitions on IC/ID • Training program for IC/ID inspectors • Public education • Storm drainage system inspection to identify and prevent prioritized types or locations of discharges • Response plan for illicit discharge incidents • Tracking program for referrals, inspections and incidents Performance standards were established, and the co-permittees with commercial or industrial facilities are implementing equivalent standards in their jurisdictions. Implementation of these programs are also occurring, and annual reports are submitted to the SCVURPPP.	
Contacts:	Dan Cloak, EOA/SCVURPPP, (510) 832-2852, X123 Darryl Wong, City of Milpitas, (408) 586-3345 Dave Grabiec, City of San Jose, (408) 945-3028	
Location:	Coyote Watershed stormdrains	
Sampling Info:	Toxic metals, pesticides, PCBs, PAHs, TSS, nitrates, phosphates, oil and grease	
Status:	Ongoing	
Timeline:	July 2000	Sampling Completion
Issues/Linkages:	SCVURPPP Santa Clara Basin Watershed Management Initiative	

San Francisco Bay Regional Monitoring Program	
Purpose:	The Regional Monitoring Program for Trace Substances (RMP) monitors contaminant concentrations in water, sediments, and fish and shellfish tissue in San Francisco Bay and Delta, together known as the San Francisco Estuary. The Estuary is surrounded by a highly urbanized landscape, and the agricultural lands of the Central Valley lie upstream. Urban runoff, agricultural runoff, treated wastewater, and dredging activities all introduce contaminants to estuarine waters. The RMP is designed to obtain data describing the concentration of toxic trace elements and organic contaminants. Ultimately, the RMP will provide information on how contaminant concentrations in the Estuary are responding to pollution prevention and reduction measures and thus if the financial resources devoted to these efforts are improving water quality. The objectives of the RMP are: • To describe patterns and trends in contaminant concentration and distribution • To describe general sources and loadings of contamination to the Estuary • To measure contaminant effect of selected parts of the Estuary ecosystem • To compare monitoring information to relevant water quality objectives and other guidelines • To synthesize and distribute information from a range of sources to present a more complete picture of the sources, distribution, fates and effects of contaminants in the Estuary Ecosystem
Agency:	San Francisco Estuary Institute (Lead) with partner agencies that include 35 municipal dischargers, 23 industrial dischargers and 20 dredgers

San Francisco Bay Regional Monitoring Program	
Description:	**Creation of the RMP** Scientists have been conducting research and monitoring activities on the Estuary for decades. These activities were typically geared for a specific need, limited in coverage, and failed to provide an overall picture of the Estuary's condition. In addition, sampling methods used by different studies were rarely comparable. The San Francisco Bay Regional Water Quality Control Board (RWQCB) is the state agency responsible for implementing and overseeing water quality programs for the San Francisco Estuary. The RWQCB realized the need for comprehensive, long-term monitoring. The Regional Monitoring Program for Trace Substances was established in an effort to fulfill that need. The San Francisco Estuary Institute (SFEI) was chosen by the RWQCB and Bay dischargers to administer the RMP. Contaminant monitoring allows the RWQCB to evaluate the effectiveness of its water quality programs in protecting the beneficial uses of the Estuary. RMP information may also be used by the agencies implementing some of the actions outlined in an Estuary preservation plan known as the Comprehensive Conservation and Management Plan (CCMP) for the San Francisco Estuary or by CALFED, the consortium of agencies charged with restoring the environmental resources of the Bay-Delta. **Monitoring** Monitoring began in 1993. In an effort to capture seasonal variability, samples are taken three times a year: during the rainy season (March-April), during a period of declining Delta outflow (May-June), and during the dry season (August-September). Two dozen sampling stations are located throughout the Estuary and at its major tributaries, from the mouths of the Guadalupe River and Coyote Creek in the extreme southern portions of the Estuary, to the confluence of the Sacramento and San Joaquin Rivers. Most station locations are chosen as far as possible from the influence of local contaminant sources to be as representative as possible of "background" contaminant concentrations. Other stations are close to wastewater outfalls or creek mouths for comparison purposes. Water samples have also been collected during the spring at two upstream locations at Rio Vista (Sacramento River) and Manteca (San Joaquin River). Researchers at the US Geological Survey in Menlo Park are participating by collecting water quality and phytoplankton data monthly. The US Geological Survey in Sacramento is also participating by measuring suspended sediments in water using continuous samplers. These measurements, made at different time scales than those in the base program, are used to describe Estuary water conditions and provide context for interpreting the RMP contaminant data.
Contact:	Rainer Hoenicke, SFEI, (510) 231-9414
Location:	Coyote Creek mouth, Standish Dam, San Jose slough (in Coyote Watershed)

San Francisco Bay Regional Monitoring Program		
Sampling Information:	**Water Quality** Salinity, Temperature, Conductivity Total suspended solids Chlorophyll a pH (acidity) Dissolved organic carbon Dissolved oxygen Hardness Phaeophytin (chlorophyll degradation product) Dissolved phosphates, silicates, nitrate, nitrite, and ammonia Organic compounds Polynuclear aromatic hydrocarbons (PAHs) Synthetic Biocides Cyclopentadienes Chlordanes DDTs HCHs Chlorpyrifos Diazinon Other Biocides Petroleum Compounds PCBs and Related Compounds	**Sediment Quality** % Clay % Silt % Sand % Gravel % Solids pH Total organic carbon Total sulfides Ammonia Trace elements Aluminum Arsenic Cadmium Chromium Copper Iron Lead Manganese Mercury Nickel Selenium Silver Zinc Tetrabutyltin, Monobutyltin, Dibutyltin, Tributyltin
Status:	Ongoing	
Timeline:	1993 1995	Sampling program initiated Sampling program on-line basin-wide
Issues/Linkages:	NA	

Stormwater Environmental Indicators Demonstration Project (SEIDP)		
Purpose:	To evaluate the usefulness of the Center for Watershed Protection's Environmental Indicator methodology, and to measure the success of stormwater programs by applying it in Coyote Creek and a small industrial catchment in the City of Santa Clara.	
Agency:	Santa Clara Valley Urban Runoff Pollution Prevention Program	
Description:	Studies large urban/residential watershed and a small industrial drainage area to compare the physical and biological indicators that may be used to assess the effects of urbanization on stream habitat.	
Contact:	Dan Cloak, SCVURPPP, (510) 832-2852, X123	
Location:	23 stations along main stem of Coyote Creek	
Sampling Info:	Analyzed data collected at 18 sampling stations for biological and physical habitat data, along with 5 stations for temperature monitoring. Data collected includes: sediment tested for Ar, Cd, Cr, Cu, Pb, Hg, and particle size distribution. Stream widening and downcutting, stream morphology, gradient, physical habitat, substrate, embeddedness, riparian canopy, streamflow, bank composition, vegetation, species number, relative abundance, length and total weight by species, Macroinvertebrate assemblages, flooding frequency, industrial/commercial pollution prevention, number of illicit discharges identified/corrected, number of BMPs installed, inspected and maintained.	
Status:	Ongoing	
Timeline:	June 2000	Scheduled completion
Issues/Linkages:	SCVURPPP Santa Clara Basin Watershed Management Initiative	

Coyote Watershed Integrated Pilot Assessment		
Purpose:	1. Identify the major issues affecting watershed health in the Coyote watershed. 2. Develop a list of appropriate management actions to preserve and enhance the Coyote watershed. 3. Identify appropriate monitoring locations and provide baseline information for a long-term monitoring program for continued watershed assessment. 4. Contribute to the WMI's Watershed Assessment Report. 5. Incorporate Coyote Creek into the RWQCB RMAS group of "pilot watershed assessments".	
Agency:	SCVURPPP	
Description:	The following tasks are proposed for completion as a part of the Coyote Watershed Integrated Pilot Assessment. • Create stream classification, using existing information that describes stream structure and function, for the Coyote mainstem and major tributaries. • Evaluate stream functions for the classified reaches in terms of hydrological processes and channel dynamics, aquatic habitat variation, richness and connectivity, using approach developed in previous project (Buchan et al., 1999. Aquatic Resource Characterization of Western Mt. Hamilton Stream Fisheries). • Document existing and proposed management actions and restoration projects occurring in the watershed and evaluate their affects to stream function and biological health. • Assess the existing and potential condition of aquatic biological resources, emphasizing fish and macroinvertebrates. • Given existing information, identify management actions to be implemented in the near-term that will enhance aquatic biological health. • Identify areas where more information is needed to assess stream function and biological health and recommend additional research and monitoring efforts to address information gaps. • Develop preliminary long-term monitoring strategy for the watershed. • Develop recommendations for analysis of beneficial use attainment.	
Contact:	Lori Pettegrew or Paul Randall, EOA, Inc. 510-832-2852	
Location:	Coyote watershed with priority given to the urban areas, which are primarily the Coyote mainstem and its major tributaries in the region downstream from Anderson Reservoir.	
Sampling Info:	None; based on existing data	
Status:	In beginning phase of project.	
Timeline:	September 2002	Project Completion Date
Issues/Linkages:	SCVURPPP will provide project status updates and share information with the WMI Watershed Assessment Subgroup and the Coyote Watershed Stream Stewardship Planning Subgroup.	

Strong Neighborhoods Initiative	
Purpose:	The Strong Neighborhoods Initiative (SNI) is a commitment made by the San Jose Mayor and the Council to unite with San Jose communities to strengthen City neighborhoods.
Agency:	City of San Jose, Mayor's office and Redevelopment Agency
Description:	Strong Neighborhoods is about cleaner, safer neighborhoods and connecting those neighborhoods to resources and to each other. It is listening to San Jose neighborhoods and responding to citywide priorities. By focusing resources from the City of San Jose, San Jose Redevelopment Agency, private investment, and public-private partnerships, the Strong Neighborhoods Initiative goals are to: • Improve neighborhood conditions • Enhance community safety • Expand community services • Strengthen neighborhood associations Eleven separate neighborhood areas have been established in the Coyote Watershed. In most Strong Neighborhood areas, a Neighborhood Advisory Committee (NAC) made up of approximately 25 members, will be drawn from residents, neighborhood associations, businesses, the faith community, property owners, schools and other stakeholders. These groups, representing the strength and diversity of each neighborhood, will work with the community and City to develop plans to improve their neighborhoods. When complete, the NACs will present the neighborhood plans and recommendations to the City Council.
Contact:	Kip Harkness, City of San Jose, (408) 277-2840 – General information http://www.strongneighborhoods.org to get information about neighborhood advisory committees
Location:	Throughout Coyote Watershed
Sampling Info:	NA
Status:	Developing NAC's and action plans for neighborhoods
Timeline:	Ongoing
Issues/Linkages:	SCVURPPP Santa Clara Basin Watershed Management Initiative

Appendix C provides details about Candidate Projects and Programs identified in Chapter 9. The detail sheets provide a description of the intent and focus(es) of each project, but are not intended to be a substitute for project scoping or the actual study itself. Appendix C is intended to be revised and updated as additional information about each project is generated. This detail sheet is also intended to provide a basis for the evaluation and prioritization of candidate projects and programs in Chapter 12. Additional work will be required to fully scope out projects if they are selected for implementation.

The following information is summarized in the project detail sheets.

Project Number – Number is based on goal, objective and assigned project number. Numbers were randomly assigned, and do not reflect any prioritization above and beyond their identification within individual objectives. For example, project WS-A-01 would be a project meeting the water supply goal, objective A.

Project Name – Name assigned to project.

Project Manager – District division or unit that would likely undertake project. No specific person or title was identified to fill this role, due to the potential flexibility of staffing decisions and workload.

Primary Goal – Goal, from Chapter 8, that the project or program helps to attain.

Primary Objective – Objective, from Chapter 8, that the project or program helps to fulfill.

Ends Policies – Ends Policy that the project or program helps to attain.

District Role – Role of the District in the first phase of the project of program. The District Role can be one or more of the following: Leader, Partner, or Supporter. Note that the District role may change for future stages, but this will not be identified in Appendix C.

- Leader: Manager or takes responsibility for project or program. This term does not preclude the District from partnering with other agencies.

- Partner: District is active participant in the project or program. It insinuates that the District is not the lead agency.

- Supporter: District provides technical or monetary assistance only.

Potential Agency Participation – Other non-District agencies that may be involved in project development or implementation.

Location – Location of the proposed project, if known. Some of the projects span the entire watershed or District service area, and those projects are identified as such.

Description – Brief (<5 lines) description of the project. This is intended to provide the reader with an overview of the project, and is the same as the tables in the Chapter 9 project description.

Project Components – The project component descriptions will describe the tasks associated with the first phase of the project. If it adds to the clarity of the project component description, additional information about the next phases may be included. These components are not necessarily in sequential order of how they would be implementation in the project or program. They are a guide to the project, and are not necessarily comprehensive.

Budget/Schedule – Estimated timing, duration and cost (or range of costs) for various project stages. Each of the projects is assumed to have a schedule that begins within a reasonable time frame, unless it is dependent on the completion of other projects or if other parties have already developed a schedule. If the initial planning or study for the candidate project has yet to be completed, ranges of cost estimates for most projects were assumed. Providing exact cost estimates without conducting any preliminary engineering was not determined to be a suitable method of cost estimation at this time. The initial planning or study task would be assumed to refine these cost estimates to more accurate cost estimates. The definitions used for the budget/schedule are as follows:

- Study/Planning: Initial identification of specific tasks required for the project or program. This includes evaluating potential sites, identification of problems, preliminary engineering, cost estimates and other action to determine the feasibility of a project or program. There is a chance that some projects or programs will never progress past this stage. This does not refer to specific project or program end products or deliverables (such as a report or a management plan). This also takes into account obtaining environmental documentation or permits for the project or program, including any studies that may be required in order to obtain these permits.

- Design: This is not strictly defined in the project components or project descriptions, as these are candidate projects and programs. This would be further defined when determining the project or program work scope. Generally it refers to actual engineering design of the project, producing plans that are used for the construction of the project, or the creation of a plan or program.

- Construction: This is not strictly defined, as these are candidate projects and programs. This would be further defined when determining the project or program work scope. Generally it refers to construction of the project.

- Implementation: Start up of the project or program, including resolution of any issues regarding implementation.

Linkages – This identifies the linkages to current or candidate projects and programs. Some projects, such as the flood protection projects, potentially link to numerous other projects, such as environmental projects. One master list of potentially linked projects was developed for these flood protection projects.

Implementation Issues – This lists potential hurdles to project or program completion or initiation. This does not include items that need to be done prior to starting the project or program. These issues are for the project or program manager, whoever it may be, to consider during the development of the project or program that could either be a fatal flaw or critical path issue. No cost hurdles were identified for any project.

Notes – Any additional information about the proposed project or program not contained within one of the other rows.

Flood Control Projects – List of Overall Linkages

Coyote Creek Mitigation
Coyote Creek Sediment Control
Coyote Watershed Creek Restoration and Inventory Study
Fish and Frog Screens
Fish Passage Improvements
Funding Partnerships
Grant Funding
Habitat Conservation Plan
Habitat Protection, Enhancement and Restoration Plan
Homeless Encampment Minimization Project
Identification of Beneficial Uses in Coyote Watershed/Basin Plan Update
Instream Groundwater Recharge Program
Intrusive Recreational Features Removal
Invasive, Non-Native and Destructive Species Control Program
Native Warmwater Fisheries Program
New Trails Construction Project
Open Spaces, Trails, and Parks Master Planning
Project Funding
Public Access Sanitation Improvements
Public Safety Improvements With District Rights-Of-Way
Restoration Funding
Salmonid Recovery Program
Saltwater/Freshwater Stream Connection Program
Santa Clara Valley Basin Watershed Management Initiative
Santa Clara Valley Urban Runoff Pollution Prevention Program
SRA Cover Habitat Conservation and Augmentation Program
Stormwater Detention and Infiltration Ponds
Stormwater Discharge Reduction Program
Stormwater Retrofit Pilot Study
Stream and Wetland Revegetation Project
Stream Channel Feature Restoration
Stream Channel Trash Maintenance Program
Stream Stewardship Plan
TMDL/Diazinon Management Program
Water Quality Management Plan

Abbreviations

Acronym	Definition
AFY	Acre-Feet per Year
BCDC	Bay Conservation and Development Commission
BMP	Best Management Practice
CDFG	California Department of Fish and Game
CNPS	California Native Plant Society
CPR	Community Participation/Recreation
CSJ	City of San Jose
CVP	Central Valley Project
EH	Environment/Habitat
EIS	Environmental Impact Statement
FAHCE	Fisheries and Aquatic Habitat Collaborative Effort
FEMA	Federal Emergency Management Agency
FP	Flood Protection/Channel Maintenance
FTP	File Transfer Protocol
GIS	Geographic Information Systems
GRASS	GRAzing SolutionS
ITAP	Irrigation Technical Assistance Program
IWRP	Integrated Water Resources Plan
LOJ	Limits of Jurisdiction
MGD	Millions of Gallons per Day
MTBE	Methyl-Tertiary Butyl Ether
NMFS	National Marine Fisheries Service
NOAA	National Oceanographic and Atmospheric Administration
NPDES	National Pollution Discharge Elimination Service
NRCS	National Resources Conservation Service
PG & E	Pacific Gas and Electric
PI	Program Implementation
PVWMA	Pajaro Valley Water Management Agency
RWQCB	Regional Water Quality Control Board
SBWR	South Bay Water Recycling
SCCOSA	Santa Clara County Open Space Authority
SCVPO	Santa Clara Valley Advanced Planning Office
SFEI	San Francisco Estuary Institute
SFPUC	San Francisco Public Utilities Commission

Acronym	Definition
SMP	Stream Maintenance Program
SRA	Shaded Riverine Aquatic
SSP	Stream Stewardship Plan
SWP	State Water Project
TDS	Total Dissolved Solids
TMDL	Total Maximum Daily Load
ULFT	Ultra Low Flush Toilets
USACOE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WMI	Watershed Management Initiative
WS	Water Supply
WS	Water Supply
WTP	Water Treatment Plant

Management of the Effects of Individual/Cumulative Groundwater Transfers

Project Number	WS-A-01			
Project Name	Management of the Effects of Individual and Cumulative Groundwater Transfers			
Project Manager	Operations Planning and Analysis Unit			
Primary Goal	Water Supply: To provide an adequate supply of sufficient quality water for all human and wildlife purposes.			
Primary Objective	WS_A. Provide a reliable supply of healthy, clean drinking water			
Ends Policies	1.1.2 The water supply is reliable to meet current needs.			
District Role	Support or Partner			
Potential Agency Participation	Water Retailers Department of Health Services			
Location	Countywide or can potentially divide into Coyote Valley and Santa Clara Basin subsections			
Description	The candidate project would reduce the effects of individual and cumulative water transfers on the groundwater basin. This includes groundwater monitoring and determining management strategies based on monitoring results.			
Project Components	a. Collect and analyze baseline groundwater monitoring information, before a proposed transfer b. Monitor groundwater levels during and after these transfers c. Identify total basin groundwater operating capacity that would not result in an undesirable level of subsidence d. Identify locations of poor/acceptable water quality e. Coordinate with South Bay Water Recycling groundwater monitoring effort to determine impact of recycled water irrigation on groundwater pollutant concentrations f. Based on collected information, identify potential strategies for District and retailers to optimize utilization of the groundwater basin as a potable supply			
Budget/Schedule		Schedule	Duration	Budget
	Study/Planning	2002-2005	1-2 years	$550,000
	Design	2005-2006	1 year	$500K-$1mil
	Implementation	2006-2007	1 year	$1-10 mil
Implementation Issues	Need to obtain cooperation of well owners to take samples Costly to replace water supplies Identification of impact of recycled water			
Notes	Project could be led by either the groundwater or water supply divisions of District			

Water Banking / Water Transfer Program

<table>
<tr><td>Project Number</td><td colspan="4">WS-A-02</td></tr>
<tr><td>Project Name</td><td colspan="4">Water Banking/Water Transfer Program</td></tr>
<tr><td>Project Manager</td><td colspan="4">Water Supply Planning Unit</td></tr>
<tr><td>Primary Goal</td><td colspan="4">Water Supply: To provide an adequate supply of sufficient quality water for all human and wildlife purposes.</td></tr>
<tr><td>Primary Objective</td><td colspan="4">WS_A. Provide a reliable supply of healthy, clean drinking water</td></tr>
<tr><td>Ends Policies</td><td colspan="4">1.1 There is a reliable supply of healthy, clean drinking water
1.1.2 The water supply is reliable to meet current needs.
1.1.3 The water supply is reliable to meet future demands as identified in the District's Integrated Water Resource Plan (IWRP) process.</td></tr>
<tr><td>District Role</td><td colspan="4">Leader</td></tr>
<tr><td>Potential Agency Participation</td><td colspan="4">United States Bureau of Reclamation & CVP Contractors
Water Retailers
Department of Health Services</td></tr>
<tr><td>Location</td><td colspan="4">Statewide, TBD</td></tr>
<tr><td>Description</td><td colspan="4">This program would increase the available imported water supplies during critical dry years, and potentially increase the amount of available imported water during typical years. Investigate utilizing potable water banking programs and long-term water transfers to provide an even greater level of imported water supply reliability.</td></tr>
<tr><td>Project Components</td><td colspan="4">a. Investigate combining water banking programs with long-term water transfers to provide increased reliability of imported water supplies.
b. Investigate and work with other agencies to expand water banking programs. These programs can potentially increase operational flexibility or reliability.
c. Continue monitoring the Semitropic program, both cost of the program and quantity of water stored, and continue monitoring of any future banking programs.
d. Negotiate terms with CVP contractors on water transfer agreements and water banking agreements
e. Receive federal environmental review and approval of project
f. Construct and implement required banking/water transfer facilities</td></tr>
<tr><td rowspan="4">Budget / Schedule</td><td></td><td>Schedule</td><td>Duration</td><td>Budget</td></tr>
<tr><td>Study/Planning</td><td>2001-2004</td><td>1-3 years</td><td>$600,000</td></tr>
<tr><td>Design</td><td>2003-2005</td><td>2 years</td><td>$200K-$2 mil</td></tr>
<tr><td>Implementation</td><td>2005-Ongoing</td><td>Ongoing</td><td>$0-10 mil</td></tr>
<tr><td>Linkages</td><td colspan="4">Integrated Water Resources Plan</td></tr>
<tr><td>Implementation Issues</td><td colspan="4">Must identify water contractor willing to negotiate water transfers and/or banking with District.
Agreement with PVWMA, Westlands and Mercy Springs was reached, but have not successfully implemented program due to EIS, other issues.</td></tr>
<tr><td>Notes</td><td colspan="4">Water shortages limit availability of allotment to approximately 60%, on average.</td></tr>
</table>

Retailers Customer Supply Survey

Project Number	WS-A-03			
Project Name	Retailers Customer Supply Survey			
Project Manager	Water Supply Management Division			
Primary Goal	Water Supply: Provide an Adequate Supply of Sufficient Quality Water for All Human and Wildlife Purposes			
Primary Objective	WS_A. Provide a reliable supply of healthy, clean drinking water			
Ends Policies	1.1 There is a reliable supply of healthy, clean drinking water 1.1.2 The water supply is reliable to meet current demands.			
District Role	Partner or Leader			
Potential Agency Participation	Retailers - City of Milpitas, San Jose Water Company, San Jose Municipal Water and Great Oaks Water Company			
Location	Countywide			
Description	Perform a detailed survey of the billing and record-keeping systems of the water retailers to determine which retailers supply information on customer categories (i.e. Single-Family Residential, Multi-Family Residential, Commercial, Institutional, etc.). This project would assist in the development of future water use projections, and the identification of water use demands of zoning decisions.			
Project Components	a. Acquire water use records from retailers b. Analyze water uses to determine water use factors for various zoning designations c. Determine impact of conservation measures d. Determine required additional supplies based on rezoning, urban expansion e. Identify impact of land-use decisions on water supply requirements			
Budget/Schedule		Schedule	Duration	Budget
	Study	2001-2002	1 year	$100,000
Linkages	Water conservation plans			
Implementation Issues				
Notes				

Recycled Water Use Feasibility Study

<table>
<tr><td>Project Number</td><td colspan="4">WS-A-04</td></tr>
<tr><td>Project Name</td><td colspan="4">Recycled Water Use Feasibility Study</td></tr>
<tr><td>Project Manager</td><td colspan="4">Water Conservation and Recycling Unit</td></tr>
<tr><td>Primary Goal</td><td colspan="4">Water Supply: Provide an Adequate Supply of Sufficient Quality Water for All Human and Wildlife Purposes</td></tr>
<tr><td>Primary Objective</td><td colspan="4">WS_A. Provide a reliable supply of healthy, clean drinking water</td></tr>
<tr><td>Ends Policies</td><td colspan="4">1.1 There is a reliable supply of healthy, clean drinking water.
1.1.2 Water supply is reliable to meet current demands. 1.1.6 Water recycling is expanded consistent with the District's Integrated Water Resources Plan (IWRP).</td></tr>
<tr><td>District Role</td><td colspan="4">Leader or Partner</td></tr>
<tr><td>Potential Agency Participation</td><td colspan="4">Sunnyvale, South Bay Water Recycling, South County Regional Wastewater Authority, Palo Alto</td></tr>
<tr><td>Location</td><td colspan="4">Countywide, but centralized near areas where wastewater treatment plants and distribution systems are located</td></tr>
<tr><td>Description</td><td colspan="4">The recycled water feasibility study will identify potential sources and uses of recycled water within Santa Clara County. Expansion of existing and the creation of new uses will be studied. These uses include irrigation, industrial, agricultural, environmental and indirect potable reuse.</td></tr>
<tr><td>Project Components</td><td colspan="4">a. Identify current and potential uses of recycled water
b. Determine feasibility of connecting identified customers to the recycled water pipeline
c. Identify water quality requirements of non-traditional customers (e.g. industrial) to determine if different varieties of recycled water (or different blends) could be delivered to certain customers/areas.
d. Determine potential alignments to extend recycled water distribution system
e. Identify preferred alignments
f. Identify potential 10-year service area to coordinate efforts of local jurisdictions to require new developments to install recycled water pipelines as a condition of development.
g. Project recycled water use associated with new construction
h. Identify potential strategies to address specific water quality concerns, e.g. nitrogen, TDS, endochrine disruptors, chlorine
i. Coordinate efforts with recycled water wholesalers</td></tr>
<tr><td rowspan="2">Budget/Schedule</td><td></td><td>Schedule</td><td>Duration</td><td>Budget</td></tr>
<tr><td>Analysis/Planning</td><td>2002-2004</td><td>1-4 years</td><td>$1,050,000</td></tr>
<tr><td>Linkages</td><td colspan="4">Santa Clara Valley Water District – Indirect Potable Reuse study
South Bay Water Recycling – Phase 2, Long Term Strategies, Streamflow Augmentation
Palo Alto – Long Term Goals Study</td></tr>
<tr><td>Implementation Issues</td><td colspan="4">Cost for new facilities may be limit ability to extend facilities</td></tr>
<tr><td>Notes</td><td colspan="4">This work would build upon existing work, and could be funded in part by Prop 13, United States Bureau of Reclamation or other sources.</td></tr>
</table>

Coyote Canal Pipeline Feasibility Study

<table>
<tr><td>Project Number</td><td colspan="4">WS-A-05</td></tr>
<tr><td>Project Name</td><td colspan="4">Coyote Canal Pipeline Feasibility Study</td></tr>
<tr><td>Project Manager</td><td colspan="4">Watershed Managers</td></tr>
<tr><td>Primary Goal</td><td colspan="4">Water Supply: Provide an Adequate Supply of Sufficient Quality Water for All Human and Wildlife Purposes</td></tr>
<tr><td>Primary Objective</td><td colspan="4">WS_A. Provide a reliable supply of healthy, clean drinking water</td></tr>
<tr><td>Ends Policies</td><td colspan="4">1.1 There is a reliable supply of healthy, clean drinking water.
1.1.5 The groundwater basins are aggressively protected from contamination and the threat of contamination.</td></tr>
<tr><td>District Role</td><td colspan="4">Leader</td></tr>
<tr><td>Potential Agency Participation</td><td colspan="4">National Marine Fisheries Service
United States Fish and Wildlife Service
City of San Jose</td></tr>
<tr><td>Location</td><td colspan="4">Base of Anderson Dam to Coyote Creek near Metcalf Road</td></tr>
<tr><td>Description</td><td colspan="4">Determine the feasibility of installing a 7.8 mile pipeline/unlined channel to bypass flows around the Coyote Valley to control groundwater elevations on Coyote Creek between Anderson Dam and Metcalf Rd.</td></tr>
<tr><td>Project Components</td><td colspan="4">a. Perform predesign of facilities required to withdraw/reintroduce water to Coyote Creek
b. Identify any facility constraints, e.g. maintaining minimum flows, fish screens, timing of diversions, etc.
c. Determine total volume of flow that should be diverted in order to manage the Coyote Valley groundwater basin and promote recharge in the Santa Clara Basin
d. Determine any proposed canal enhancements associated with construction of a diversion pipeline</td></tr>
<tr><td rowspan="4">Budget/Schedule</td><td></td><td>Schedule</td><td>Duration</td><td>Budget</td></tr>
<tr><td>Planning</td><td>2002-2004</td><td>1-4 years</td><td>$300,000</td></tr>
<tr><td>Design</td><td>2003-2005</td><td>2-3 years</td><td>$1-3 million</td></tr>
<tr><td>Construction</td><td>2005-2007</td><td>2-3 years</td><td>$5-20 million</td></tr>
<tr><td>Linkages</td><td colspan="4">Fisheries and Aquatic Habitat Collaborative Effort
Salmonid Recovery Program
Native Warmwater Fisheries Program
Habitat Protection, Enhancement and Restoration Plan
Habitat Conservation Plan</td></tr>
<tr><td>Implementation Issues</td><td colspan="4">Coordinate with groundwater management plan.</td></tr>
<tr><td>Notes</td><td colspan="4">Coyote Creek is listed as habitat for steelhead.</td></tr>
</table>

Regional Water Reliability Study

<table>
<tr><td>Project Number</td><td colspan="4">WS-A-06</td></tr>
<tr><td>Project Name</td><td colspan="4">Regional Water Reliability Study</td></tr>
<tr><td>Project Manager</td><td colspan="4">Water Supply Planning Unit</td></tr>
<tr><td>Primary Goal</td><td colspan="4">Water Supply: Provide an Adequate Supply of Sufficient Quality Water for All Human and Wildlife Purposes</td></tr>
<tr><td>Primary Objective</td><td colspan="4">WS_A. Provide a reliable supply of healthy, clean drinking water</td></tr>
<tr><td>Ends Policies</td><td colspan="4">1.1.2 The water supply meets or exceeds all applicable water quality regulatory standards in a cost-effective manner.
1.1.3 The water supply is reliable to meet future demands as identified in the district’s Integrated Water Resource Plan (IWRP) process.</td></tr>
<tr><td>District Role</td><td colspan="4">Leader</td></tr>
<tr><td>Potential Agency Participation</td><td colspan="4">San Francisco Public Utilities Commission (SFPUC)
US Bureau of Reclamation</td></tr>
<tr><td>Location</td><td colspan="4">Coyote Watershed</td></tr>
<tr><td>Description</td><td colspan="4">Analyze the reliability of District water deliveries in the event of a natural disaster or power outage, and determine how District could be more prepared. This project would identify potential strategies to increase the reliability of existing water supplies, including identifying reliability improvements in and around known and suspected fault lines.</td></tr>
<tr><td>Project Components</td><td colspan="4">a. For the entire wholesale water supply delivery network, determine locations that are potentially susceptible to an earthquake, other natural disaster, or power outage.
b. At fault locations, determine required reliability or redundant facilities that would help prevent damage during an earthquake
c. Identify whether additional interties or storage facilities are required.
d. Determine necessary access requirements for transmission system, and identify areas where additional access or right-of-way is required.
e. Design facilities recommended by Study.
f. Construct facilities recommended by Study.</td></tr>
<tr><td rowspan="4">Budget/Schedule</td><td></td><td>Schedule</td><td>Duration</td><td>Budget</td></tr>
<tr><td>Planning</td><td>2003-2007</td><td>2-5 years</td><td>$1.5-3.5 mil</td></tr>
<tr><td>Design</td><td>2004-2007</td><td>2-3 years</td><td>$4-20 mil</td></tr>
<tr><td>Construction</td><td>2006-2010</td><td>4-5 years</td><td>$10-100 mil</td></tr>
<tr><td>Linkages</td><td colspan="4">Conjunctive Use Plan
Identification of Beneficial Uses in Coyote Watershed/Basin Plan Update</td></tr>
<tr><td>Implementation Issues</td><td colspan="4">Projects may require extensive environmental review
Funding issues</td></tr>
<tr><td>Notes</td><td colspan="4">Similar project to SFPUC Reliability Study</td></tr>
</table>

Water Conservation Baseline Study

<table>
<tr><td>Project Number</td><td colspan="4">WS-B-01</td></tr>
<tr><td>Project Name</td><td colspan="4">Water Conservation Baseline Study</td></tr>
<tr><td>Project Manager</td><td colspan="4">Water Conservation and Recycling Unit</td></tr>
<tr><td>Primary Goal</td><td colspan="4">Water Supply: Provide an Adequate Supply of Sufficient Quality Water for All Human and Wildlife Purposes</td></tr>
<tr><td>Primary Objective</td><td colspan="4">WS_B. Reduce/manage total potable water demand</td></tr>
<tr><td>Ends Policies</td><td colspan="4">1.1 There is a reliable supply of healthy, clean drinking water
1.1.2 Water supply is reliable to meet current demands</td></tr>
<tr><td>District Role</td><td colspan="4">Supporter</td></tr>
<tr><td>Potential Agency Participation</td><td colspan="4">Water Retailers</td></tr>
<tr><td>Location</td><td colspan="4">Throughout Coyote Watershed/District Jurisdiction</td></tr>
<tr><td>Description</td><td colspan="4">Conduct a Water Conservation Baseline Study to determine how and why a conservation program works and which customer groups are conserving. The study would also develop a water conservation feasibility study to evaluate cost-effective solutions to reducing water demand. These solutions could include the expansion of existing conservation programs, creation of new programs, or the modification of existing water consumptive practices to reduce water demand.</td></tr>
<tr><td>Project Components</td><td colspan="4">a. Make water retailers aware of the study and invite their participation.
b. Survey water customers to determine their attitudes towards water conservation and water conservation appliances/practices (such as their acceptance of low flush toilets, low flow showerheads, etc.)
c. Research other water district’s experiences with water conservation, including successes and failures.
d. Based on research and customer survey, determine what water conservation measures would be most effective for District customers.
e. Prepare baseline study report.</td></tr>
<tr><td rowspan="2">Budget / Schedule</td><td></td><td>Schedule</td><td>Duration</td><td>Budget</td></tr>
<tr><td>Study</td><td>2002-2003</td><td>1-2 years</td><td>$350,000</td></tr>
<tr><td>Linkages</td><td colspan="4">Water Conservation Appliance Use Study</td></tr>
<tr><td>Implementation Issues</td><td colspan="4">NA</td></tr>
<tr><td>Notes</td><td colspan="4">This project would likely be incorporated into a IWRP Implementation Plan</td></tr>
</table>

Water Conservation Appliance Use Study

<table>
<tr><td>Project Number</td><td colspan="4">WS-B-02</td></tr>
<tr><td>Project Name</td><td colspan="4">Water Conservation Appliance Use Study</td></tr>
<tr><td>Project Manager</td><td colspan="4">Water Conservation and Recycling Unit</td></tr>
<tr><td>Primary Goal</td><td colspan="4">Water Supply: Provide an Adequate Supply of Sufficient Quality Water for All Human and Wildlife Purposes</td></tr>
<tr><td>Primary Objective</td><td colspan="4">WS_B. Reduce/manage total potable water demand</td></tr>
<tr><td>Ends Policies</td><td colspan="4">1.1.2 The water supply is reliable to met current demands.
1.1.3 The water supply is reliable to meet future demands as identified in the district’s Integrated Water Resource Plan (IWRP) process.</td></tr>
<tr><td>District Role</td><td colspan="4">Leader</td></tr>
<tr><td>Potential Agency Participation</td><td colspan="4">Local Cities
Local Water Retailers
Pacific Gas and Electric (PG & E)</td></tr>
<tr><td>Location</td><td colspan="4">Throughout Coyote Watershed/District Jurisdiction</td></tr>
<tr><td>Description</td><td colspan="4">Determine the feasibility of expanding the ultra low flush toilet (ULFT) rebate program to other water conserving appliances, such as front-loading washers or water conserving dishwashers. Continue and promote existing ULFT program.</td></tr>
<tr><td>Project Components</td><td colspan="4">a. Research and determine which water conservation appliances are available and feasible
b. Survey customers to determine their receptivity to other water conservation appliances
c. Determine which appliances would work the best for each community (or county wide)
d. Develop rebate program for appliances</td></tr>
<tr><td rowspan="3">Budget/Schedule</td><td></td><td>Schedule</td><td>Duration</td><td>Budget</td></tr>
<tr><td>Planning</td><td>2002</td><td>1 year</td><td>$100,000</td></tr>
<tr><td>Implementation</td><td>Ongoing</td><td>Ongoing</td><td>$500,000/yr</td></tr>
<tr><td>Linkages</td><td colspan="4">Water Conservation Baseline Study</td></tr>
<tr><td>Implementation Issues</td><td colspan="4">Program would likely be limited only to homeowner installed purchase of new appliances, not retrofit of existing ones.</td></tr>
<tr><td>Notes</td><td colspan="4">This study and implementation should be coordinated with existing “Energy Saver” rebate programs promoted by PG & E and the ULFT water rebate program promoted by the District and local cities.</td></tr>
</table>

IWRP Implementation

<table>
<tr><td>Project Number</td><td colspan="4">WS-B-03</td></tr>
<tr><td>Project Name</td><td colspan="4">IWRP Implementation</td></tr>
<tr><td>Project Manager</td><td colspan="4">Watershed Management</td></tr>
<tr><td>Primary Goal</td><td colspan="4">Water Supply: Provide an Adequate Supply of Sufficient Quality Water for All Human and Wildlife Purposes</td></tr>
<tr><td>Primary Objective</td><td colspan="4">WS_B. Reduce/manage total potable water demand</td></tr>
<tr><td>Ends Policies</td><td colspan="4">1.1.2 The water supply is reliable to met current demands.
1.1.3 The water supply is reliable to meet future demands as identified in the district's Integrated Water Resource Plan (IWRP) process.
1.1.6 Water recycling is expanded consistent with the District's Integrated Water Resources Plan (IWRP).</td></tr>
<tr><td>District Role</td><td colspan="4">Leader</td></tr>
<tr><td>Potential Agency Participation</td><td colspan="4">Local Water Retailers
State Water Project
United States Bureau of Reclamation</td></tr>
<tr><td>Location</td><td colspan="4">District-wide</td></tr>
<tr><td>Description</td><td colspan="4">Provide resources to implement the District's Integrated Water Resources Plan.</td></tr>
<tr><td>Project Components</td><td colspan="4">a. Implement the Integrated Water Resources Plan – recommendations included:
• 46,000 AFY conservation
• 14,400 AFY non-potable recycling
• Establishing M & I shortage policy for CVP supplies
• Protecting reliability of SWP, CWP and Hetch-Hetchy supplies
• Protecting existing resources and monitoring potential impacts
• Implement programs to seek improvements in source water quality, protect quality of existing resources and improve treatment capability
• Improving data collection and evaluation
• Expanding and upgrading Rinconada WTP from 80 to 100 MGD to meet anticipated capacity requirements
• Adding recharge or treatment capacity for South County
• Up to 100,000 AFY water banking
• Up to 25,000 AFY long-term recycled water usage
• Up to 11,000 AFY in reduced demand associated with demand management
• Long-term water transfers of up to 25,000 AFY
b. Update project implementation plan as IWRP recommendations are updated</td></tr>
<tr><td rowspan="2">Budget/Schedule</td><td></td><td>Schedule</td><td>Duration</td><td>Budget</td></tr>
<tr><td>Planning</td><td colspan="3">The reader is referred to the IWRP for this information</td></tr>
<tr><td>Linkages</td><td colspan="4">Recycled Water Use Feasibility Study
Water Conservation Baseline Study</td></tr>
<tr><td>Implementation Issues</td><td colspan="4">Can be costly to implement new water supply projects.
Determination of the level of water supply required and the amount of water reliability required is necessary.</td></tr>
<tr><td>Notes</td><td colspan="4">IWRP is currently being updated from the existing 1997 Implementation Plan</td></tr>
</table>

	This program will likely serve as the umbrella for the other water supply projects identified in this document.

Water Quality Management Plan

Project Number	WS-C-01
Project Name	Water Quality Management Plan
Project Manager	Countywide Watershed Programs Unit
Primary Goal	Water Supply: Provide an Adequate Supply of Sufficient Quality Water for All Human and Wildlife Purposes
Primary Objective	WS_C. Protect surface water/groundwater supplies to meet or exceed all applicable water quality regulatory standards in a cost-effective manner.
Ends Policies	1.1 There is a reliable supply of healthy, clean drinking water. 1.1.1 The water supply meets or exceeds all applicable water quality regulatory standards in a cost-effective manner. 1.1.5 Groundwater basins are aggressively protected from contamination and the threat of contamination.
District Role	Leader
Potential Agency Participation	Regional Water Quality Control Board Santa Clara Valley Urban Runoff Pollution Prevention Program
Location	Coyote Watershed
Description	Implement management plan to ensure water quality objectives are attained.
Project Components	a. Develop water quality monitoring program b. Develop program to control and abate MTBE in surface and groundwater supplies. c. Develop program to control and abate Diazinon d. Identify and implement water quality protection measures in reservoirs and watershed. e. Continue participation and support of Santa Clara Valley Urban Runoff Pollution Prevention Program (including watershed assessment), and fulfill NPDES requirements f. Coordinate TMDL schedule with regulators g. Identify and implement conjunctive uses that improve water quality and quantity for aquatic resources h. Comply with MS4 NPDES permit

Budget/Schedule		Schedule	Duration	Budget
	Study/Develop Program	2002-2005	2-3 years	$1.9-2.8 million
	Plan Preparation	2005-2006	1-2 years	$400,000
	Implementation	2006-2010	2-4 years	$1-10 million

Linkages	TMDL/Diazinon Management Plan Stormwater Discharge Reduction Program Identification of Beneficial Uses in Coyote Watershed/Basin Plan Update Coyote Creek Sediment Control Habitat Protection, Enhancement, and Restoration Plan Habitat Conservation Plan Instream Groundwater Recharge Surface Water Quality Improvement
Implementation Issues	Protecting water quality may impact water supply availability, or impact the ability of other District and non-District projects to be completed.
Notes	Must be coordinated with flood control, restoration and other projects, perhaps as BMPs

	or add-ons to provide environmental enhancements.

Instream Groundwater Recharge

<table>
<tr><td>Project Number</td><td colspan="4">WS-C-02</td></tr>
<tr><td>Project Name</td><td colspan="4">Instream Groundwater Recharge</td></tr>
<tr><td>Project Manager</td><td colspan="4">Countywide Watershed Programs Unit</td></tr>
<tr><td>Primary Goal</td><td colspan="4">Water Supply: Provide an Adequate Supply of Sufficient Quality Water for All Human and Wildlife Purposes</td></tr>
<tr><td>Primary Objective</td><td colspan="4">WS_C. Protect surface water/groundwater supplies to meet or exceed all applicable water quality regulatory standards in a cost-effective manner.</td></tr>
<tr><td>Ends Policies</td><td colspan="4">1.1.1 Water supply meets or exceeds all applicable water quality regulatory standards in a cost-effective manner.
1.2.2.3 Groundwater supplies are sustained.</td></tr>
<tr><td>District Role</td><td colspan="4">Leader</td></tr>
<tr><td>Potential Agency Participation</td><td colspan="4">Regional Water Quality Control Board</td></tr>
<tr><td>Location</td><td colspan="4">Ford Road and Coyote Ponds on Coyote Creek
Penitencia and Overfelt Ponds on Upper Penitencia Creek.
Other locations as identified</td></tr>
<tr><td>Description</td><td colspan="4">Provide instream groundwater recharge. This project would expand the ability of the District to recharge the groundwater basin in the east zone. If it is determined that additional recharge is required, project would identify ways and locations most suitable for percolation and/or injection.</td></tr>
<tr><td>Project Components</td><td colspan="4">a. Identify areas along creek that would be appropriate for instream recharge
b. Evaluate instream recharge sites
c. Select instream recharge sites
d. Design any required modifications
e. Construct any required modifications</td></tr>
<tr><td rowspan="4">Budget/Schedule</td><td></td><td>Schedule</td><td>Duration</td><td>Budget</td></tr>
<tr><td>Planning</td><td>2002-2006</td><td>1-4 years</td><td>$1-2.5 mil</td></tr>
<tr><td>Design</td><td>2006-2007</td><td>1-2 years</td><td>$1-6 mil</td></tr>
<tr><td>Construction</td><td>2007-2009</td><td>1-3 years</td><td>$2-20 mil</td></tr>
<tr><td>Linkages</td><td colspan="4">Water Quality Management Plan
Conjunctive Use Plan</td></tr>
<tr><td>Implementation Issues</td><td colspan="4">The groundwater basin in the east zone has a lower percolation ability than other areas.
Impact to natural habitat and streamflow.</td></tr>
<tr><td>Notes</td><td colspan="4">The long-term needs of the local water retailers must be coordinated and addressed.</td></tr>
</table>

Conjunctive Use Plan

Project Number	WS-D-01
Project Name	Conjunctive Use Plan
Project Manager	Countywide Watershed Programs Unit
Primary Goal	Water Supply: Provide an Adequate Supply of Sufficient Quality Water for All Human and Wildlife Purposes
Primary Objective	WS_D. Provide adequate water quality and quantity to sustain native fisheries and other aquatic life, and the human community
Ends Policies	1.1 There is a reliable supply of healthy, clean drinking water. 1.1.1 The water supply meets or exceeds all applicable water quality regulatory standards in a cost-effective manner. 1.1.2 The water supply is reliable to meet current demands. 1.1.3 The water supply is reliable to meet future demands as identified in the District's Integrated Water Resource Plan (IWRP) process. 1.1.4 There are a variety of water supply sources.
District Role	Leader
Potential Agency Participation	State Water Resources Control Board/Regional Water Quality Control Board California Department of Water Resources
Location	Coyote Watershed
Description	Identify and implement conjunctive use opportunities that improve maximize water availability for human and aquatic resources.
Project Components	a. Identify areas where groundwater pumping may have adversely impacted streamflows. b. Determine available aquifer storage in the Santa Clara Basin. c. Develop strategies to maximize groundwater storage for critical dry year usage. d. Identify potential environmental restoration opportunities associated with conjunctive use.
Budget/Schedule	see below
Linkages	Identification of Beneficial Uses in Coyote Watershed/Basin Plan Update Water Quality Management Plan Instream Groundwater Recharge Native Warmwater Fisheries Program Salmonid Recovery Program Habitat Conservation Plan Habitat Protection, Enhancement, and Restoration Plan
Implementation Issues	
Notes	

Budget/Schedule

	Schedule	Duration	Budget
Planning	2002-2005	2-5 years	$1.5-2.5 mil
Design	2005-2007	2-3 years	$1-4 mil
Implementation	2006-2008	2-3 years	$2-20 mil

Identification of Beneficial Uses in Coyote Watershed/Basin Plan Update

Project Number	WS-D-02			
Project Name	Identification of Beneficial Uses in Coyote Watershed/Basin Plan Update			
Project Manager	Countywide Watershed Programs Unit			
Primary Goal	Water Supply: Provide an Adequate Supply of Sufficient Quality Water for All Human and Wildlife Purposes			
Primary Objective	WS_D. Provide adequate water quality and quantity to sustain native fisheries and other aquatic life, and the human community			
Ends Policies	1.1 There is a reliable supply of healthy, clean drinking water.			
District Role	Partner			
Potential Agency Participation	Regional Water Quality Control Board (Leader) Santa Clara Basin Watershed Management Initiative Santa Clara Valley Urban Runoff Pollution Prevention Program			
Location	Coyote Watershed			
Description	Coordinate with Regional Water Quality Control Board, Watershed Management Initiative and Santa Clara Valley Urban Runoff Pollution Prevention Program on update of basin plan table for beneficial use designations for Coyote Watershed. These areas include: • Major creeks within the Santa Clara Basin. • Groundwater supplies in Santa Clara and Coyote Valley • Major contiguous wetlands, where practical • Other wetland sites, as needed			
Project Components	a. Work with Regional Water Quality Control Board, WMI, and Santa Clara Valley Urban Runoff Pollution Prevention Program on completing the update of the Basin Plan. b. Identify the beneficial uses of major water supplies in Coyote Watershed			
Budget/Schedule		Schedule	Duration	Budget
	Basin Plan Update	2003-2005	2-3 years	$1,100,000
Linkages	Conjunctive Use Plan Water Quality Management Plan			
Implementation Issues				
Notes	The most recent basin plan was updated in 1995.			

GRAzing SolutionS (GRASS) Support

Project Number	WS-E-01			
Project Name	Grazing Solutions (GRASS) Support			
Project Manager	Countywide Watershed Programs Unit			
Primary Goal	Water Supply: Provide an Adequate Supply of Sufficient Quality Water for All Human and Wildlife Purposes			
Primary Objective	WS_E. Reduce direct and non-point sources of pollutants in streams			
Ends Policies	1.1.1 The water supply meets or exceeds all applicable water quality regulatory standards in a cost-effective manner. 1.1.5 The groundwater basins are aggressively protected from contamination and the threat of contamination. 1.2.2.2 There is clean, safe water in our creeks and bays.			
District Role	Supporter/Partner			
Potential Agency Participation	Santa Clara Advanced Planning Office (SCVPO)			
Location	Coyote Watershed/District Jurisdiction			
Description	Support Santa Clara Advanced Planning office distribution and demonstration projects for GRASS (GRAzing SolutionS) along with their advisory team.			
Project Components	a. Meet with Santa Clara Advanced Planning Office to establish partnership/technical role. b. Work with SCVPO to implement GRASS projects c. Provide Technical Support and in-kind services to GRASS			
Budget/Schedule		Schedule	Duration	Budget
	Support/Coordination	Ongoing	Ongoing	$50,000/yr
Linkages	Santa Clara Valley Urban Runoff Pollution Prevention Program Water Quality Management Plan Conjunctive Use Plan Identification of Beneficial Uses in Coyote Watershed/Basin Plan Update Stormwater Discharge Reduction Program			
Implementation Issues	Coordination of GRASS support with other District Projects			
Notes				

Stormwater Discharge Reduction Program

Project Number	WS-E-02			
Project Name	Stormwater Discharge Reduction Program			
Project Manager	Countywide Watershed Programs Unit			
Primary Goal	Water Supply: Provide an Adequate Supply of Sufficient Quality Water for All Human and Wildlife Purposes			
Primary Objective	WS_E. Reduce direct and non-point sources of pollutants in streams			
Ends Policies	1.2.2.2 There is clean, safe water in our creeks and bays. 2.1 Watersheds, streams, and the natural resources therein are protected and when appropriate, enhanced or restored.			
District Role	Leader			
Potential Agency Participation	City of San Jose City of Milpitas Regional Water Quality Control Board Santa Clara Valley Urban Runoff Pollution Prevention Program			
Location	Coyote Watershed			
Description	Develop feasibility plan to identify solutions to reduce rate and quantity of stormwater pollutant discharges.			
Project Components	a. Identify where constructed wetlands could be utilized for stormwater treatment. b. Work with large non-point source polluters, e.g. golf courses, to reduce runoff. This could include detention ponds or other on-site attenuation controls. c. Identify and implement new technologies and BMPs. d. Work with the City of San Jose's Streets and Traffic departments on long-term maintenance of storm sewers. e. Identify cost-effective areas to pilot test construction of stormwater retrofit opportunities to attenuate flood flows. Example technologies include ecoroofs and on-site detention.			
Budget/Schedule		Schedule	Duration	Budget
	Study/Planning	2002-2003	1 year	$300-500,000
	Design	2003	1 year	$200-600,000
	Implementation	2004-2006	1-3 years	$500-900,000
Linkages	Water Quality Management Program Coyote Creek Sediment Control Habitat Protection, Enhancement, and Restoration Plan Native Warmwater Fisheries Program Salmonid Recovery Program			
Implementation Issues				
Notes				

TMDL/Diazinon Management Program

<table>
<tr><td>Project Number</td><td colspan="4">WS-F-01</td></tr>
<tr><td>Project Name</td><td colspan="4">TMDL/Diazinon Management Program</td></tr>
<tr><td>Project Manager</td><td colspan="4">Countywide Watershed Programs Unit</td></tr>
<tr><td>Primary Goal</td><td colspan="4">Water Supply: Provide an Adequate Supply of Sufficient Quality Water for All Human and Wildlife Purposes</td></tr>
<tr><td>Primary Objective</td><td colspan="4">WS_F. Restore impaired water bodies/TMDLs</td></tr>
<tr><td>Ends Policies</td><td colspan="4">1.1 There is a reliable supply of healthy, clean drinking water.
1.1.1 The water supply meets or exceeds all applicable water quality regulatory standards in a cost-effective manner.
1.2.2.2 There is clean, safe water in our creeks and bays.</td></tr>
<tr><td>District Role</td><td colspan="4">Supporter or Partner</td></tr>
<tr><td>Potential Agency Participation</td><td colspan="4">Regional Water Quality Control Board
Local Cities
Santa Clara Valley Urban Runoff Pollution Prevention Program</td></tr>
<tr><td>Location</td><td colspan="4">Coyote Watershed</td></tr>
<tr><td>Description</td><td colspan="4">Work with regulators to coordinate TMDL implementation schedule. Develop management plan and monitoring program to identify sources of diazinon in Coyote Watershed.</td></tr>
<tr><td>Project Components</td><td colspan="4">a. Identify and characterize existing TMDL/diazinon impacted areas
b. Develop criteria and process for evaluating potential TMDL/diazinon sources
c. Identify locations with opportunities to mitigate and protect areas from constituents
d. Evaluate specific sites.
e. Conduct special surveys on additional sources/activities.
f. Develop an interactive GIS and install on District website.</td></tr>
<tr><td rowspan="4">Budget/Schedule</td><td></td><td>Schedule</td><td>Duration</td><td>Budget</td></tr>
<tr><td>Study/Planning</td><td>2002-2005</td><td>2-3 years</td><td>$200-400,000</td></tr>
<tr><td>Plan Preparation</td><td>2005</td><td>1 year</td><td>$300,000</td></tr>
<tr><td>Implementation</td><td>2006-2010</td><td>3-4 years</td><td>$600-1.2 mil</td></tr>
<tr><td>Linkages</td><td colspan="4">Water Quality Management Plan
Habitat Protection, Enhancement, and Restoration Plan
Identification of Beneficial Uses in Coyote Watershed/Basin Plan Update
Surface Water Quality Improvement</td></tr>
<tr><td>Implementation Issues</td><td colspan="4">The establishment of TMDLs is the role of the RWQCB, with the WMI helping to coordinate some of the technical and implementation aspects.</td></tr>
<tr><td>Notes</td><td colspan="4"></td></tr>
</table>

Stormwater Retrofit Pilot Study

<table>
<tr><td>Project Number</td><td colspan="4">FP1-A-01</td></tr>
<tr><td>Project Name</td><td colspan="4">Stormwater Retrofit Pilot Study</td></tr>
<tr><td>Project Manager</td><td colspan="4">Countywide Watershed Programs Unit</td></tr>
<tr><td>Primary Goal</td><td colspan="4">Flood Protection/Channel Maintenance: To Protect Humans, Wildlife and Property From Damaging Floods</td></tr>
<tr><td>Primary Objective</td><td colspan="4">FP1_A. Minimize expansion of the 1% floodplain</td></tr>
<tr><td>Ends Policies</td><td colspan="4">1.2 There is a reduced potential for flood damages.
1.2.1 The cost of reducing the potential for flood damages is balanced with the benefits (including possible environmental restoration and enhancement).</td></tr>
<tr><td>District Role</td><td colspan="4">Leader</td></tr>
<tr><td>Potential Agency Participation</td><td colspan="4">Regional Water Quality Control Board
Santa Clara Valley Urban Runoff Pollution Prevention Program</td></tr>
<tr><td>Location</td><td colspan="4">Coyote Watershed</td></tr>
<tr><td>Description</td><td colspan="4">Identify cost-effective areas to pilot-test construction of stormwater retrofit opportunities to attenuate peak flows. These technologies could be incorporated into new development construction, or added onto existing buildings that are empty or underutilized if deemed appropriate.</td></tr>
<tr><td>Project Components</td><td colspan="4">a. Identify areas that would be candidates for stormwater reduction
b. Research and identify stormwater reduction technologies
c. Evaluate which technologies would be appropriate for the stormwater reduction candidate areas.
d. Select areas to pilot test stormwater reduction technologies. Example technologies to pilot test include ecoroofs, on-site detention.
e. Perform pilot tests
f. Evaluate results of pilot tests
g. Determine which, if any, stormwater reduction technologies should be implemented</td></tr>
<tr><td rowspan="4">Budget/Schedule</td><td></td><td>Schedule</td><td>Duration</td><td>Budget</td></tr>
<tr><td>Study/Planning</td><td>2002-2004</td><td>2-3 years</td><td>$150,000/yr</td></tr>
<tr><td>Pilot Testing</td><td>2003-2005</td><td>2-3 years</td><td>$400,000</td></tr>
<tr><td>Implementation</td><td>2006-onwards</td><td>TBD</td><td>$500-1,000,000</td></tr>
<tr><td>Linkages</td><td colspan="4">Water Quality Management Plan
Habitat Protection, Enhancement, and Restoration Plan
Flood Facility Projects
Coyote Creek Sediment Control</td></tr>
<tr><td>Implementation Issues</td><td colspan="4">Must determine cost-effectiveness of various technologies, and appropriate location(s) for implementation</td></tr>
<tr><td>Notes</td><td colspan="4">Some stormwater retrofit technologies have been implemented in other places, such as Oregon or Washington.</td></tr>
</table>

Land-Use Decision Seminars

<table>
<tr><td>Project Number</td><td colspan="4">FP1-A-02</td></tr>
<tr><td>Project Name</td><td colspan="4">Land-Use Decision Seminars</td></tr>
<tr><td>Project Manager</td><td colspan="4">Watershed Planning Unit</td></tr>
<tr><td>Primary Goal</td><td colspan="4">Flood Protection/Channel Maintenance: To Protect Humans, Wildlife and Property From Damaging Floods</td></tr>
<tr><td>Primary Objective</td><td colspan="4">FP1_A. Minimize expansion of the 1% floodplain</td></tr>
<tr><td>Ends Policies</td><td colspan="4">1.2 There is a reduced potential for flood damages.
1.2.2.1 Homes, schools, businesses, and transportation networks are protected from flooding and erosion.</td></tr>
<tr><td>District Role</td><td colspan="4">Leader</td></tr>
<tr><td>Potential Agency Participation</td><td colspan="4">City of San Jose
City of Milpitas
Santa Clara County</td></tr>
<tr><td>Location</td><td colspan="4">Coyote Watershed</td></tr>
<tr><td>Description</td><td colspan="4">Conduct seminars to educate planners on how land-use decisions can affect flooding and environmental quality. An example seminar could be the Land Use and Water Summit held on March 29, 2001.</td></tr>
<tr><td>Project Components</td><td colspan="4">a. Identify all local planning divisions/departments in the District’s jurisdiction.
b. Meet with planning divisions/departments to determine receptiveness/interest in flooding and environmental quality issues surrounding planning
c. Research and identify planning issues regarding flooding and environmental quality. Include case studies where appropriate.
d. Prepare seminars to provide information
e. Conduct seminars on a regular basis (yearly, etc.)
f. Follow up on recommendations made at each seminar</td></tr>
<tr><td rowspan="2">Budget/Schedule</td><td></td><td>Schedule</td><td>Duration</td><td>Budget</td></tr>
<tr><td>Seminar Meeting</td><td>1-2/year</td><td>NA</td><td>$50,000/seminar</td></tr>
<tr><td>Linkages</td><td colspan="4">Community Watershed Stewardship Program</td></tr>
<tr><td>Implementation Issues</td><td colspan="4">Follow through of ideas and motivation generated by seminars</td></tr>
<tr><td>Notes</td><td colspan="4">Based on March 2001 seminar</td></tr>
</table>

Hydrologic Data Collection Network

<table>
<tr><td>Project Number</td><td colspan="4">FP1-B-01</td></tr>
<tr><td>Project Name</td><td colspan="4">Hydrologic Data Collection Network</td></tr>
<tr><td>Project Manager</td><td colspan="4">Countywide Watershed Programs Unit</td></tr>
<tr><td>Primary Goal</td><td colspan="4">Flood Protection/Channel Maintenance: To Protect Humans, Wildlife and Property From Damaging Floods</td></tr>
<tr><td>Primary Objective</td><td colspan="4">FP1_B. Reduced potential for flood damages</td></tr>
<tr><td>Ends Policies</td><td colspan="4">1.2 There is a reduced potential for flood damages.</td></tr>
<tr><td>District Role</td><td colspan="4">Leader</td></tr>
<tr><td>Potential Agency Participation</td><td colspan="4">USGS</td></tr>
<tr><td>Location</td><td colspan="4">Coyote Watershed</td></tr>
<tr><td>Description</td><td colspan="4">Install additional streamflow monitoring stations to add to the Hydrologic Data Collection Network to, in part, enhance emergency response and flood preparedness services.</td></tr>
<tr><td>Project Components</td><td colspan="4">a. Identify areas of data gaps or areas that would benefit from additional streamflow data
b. Locate sites for streamflow monitoring stations in the identified areas
c. Install streamflow monitoring stations at feasible sites
d. Ensure regular monitoring and maintenance of streamflow monitoring stations</td></tr>
<tr><td rowspan="4">Budget/Schedule</td><td></td><td>Schedule</td><td>Duration</td><td>Budget</td></tr>
<tr><td>Planning</td><td>2002</td><td>1 year</td><td>$50,000</td></tr>
<tr><td>Installation</td><td>2003</td><td>1 year</td><td>$25,000/station</td></tr>
<tr><td>Monitoring</td><td>Ongoing</td><td>Ongoing</td><td>Nominal</td></tr>
<tr><td>Linkages</td><td colspan="4">Conjunctive Use Plan
Flood Protection Projects</td></tr>
<tr><td>Implementation Issues</td><td colspan="4">Stations will require maintenance and vandalism control to ensure they work properly.</td></tr>
<tr><td>Notes</td><td colspan="4">Coordinate with United States Geological Survey (USGS)</td></tr>
</table>

Storm Water Detention and Infiltration Ponds

<table>
<tr><td>Project Number</td><td colspan="4">FP1-B-02</td></tr>
<tr><td>Project Name</td><td colspan="4">Storm Water Detention and Infiltration Ponds</td></tr>
<tr><td>Project Manager</td><td colspan="4">Countywide Watershed Programs Unit</td></tr>
<tr><td>Primary Goal</td><td colspan="4">Flood Protection/Channel Maintenance: To Protect Humans, Wildlife and Property From Damaging Floods</td></tr>
<tr><td>Primary Objective</td><td colspan="4">FP1_B. Reduced potential for flood damages</td></tr>
<tr><td>Ends Policies</td><td colspan="4">1.2 There is reduced potential for flood damages
1.2.1 The cost of reducing the potential for flood damages is balanced with the benefits (including possible environmental restoration and enhancement).
1.2.2.1 Homes, schools, businesses, and transportation networks are protected from flooding and erosion.</td></tr>
<tr><td>District Role</td><td colspan="4">Leader</td></tr>
<tr><td>Potential Agency Participation</td><td colspan="4">Regional Water Quality Control Board
Santa Clara Valley Urban Runoff Pollution Prevention Program</td></tr>
<tr><td>Location</td><td colspan="4">Coyote Watershed</td></tr>
<tr><td>Description</td><td colspan="4">Determine the feasibility of creating and constructing new stormwater detention and infiltration ponds to minimize peak streamflows. These ponds could have an alternate benefit of capturing sediment.</td></tr>
<tr><td>Project Components</td><td colspan="4">a. Identify locations where additional treatment of non-point source pollution may be required
b. Identify locations where additional recharge capacity may be required
c. Analyze where detention of stormwater could reduce the need for construction of flood protection facilities
d. Identify potential sites for construction of detention and infiltration ponds
e. Analyze the potential environmental benefits of new detention or percolation facilities</td></tr>
<tr><td rowspan="4">Budget/Schedule</td><td></td><td>Schedule</td><td>Duration</td><td>Budget</td></tr>
<tr><td>Study</td><td>2003-2005</td><td>1-3 years</td><td>$500,000</td></tr>
<tr><td>Design</td><td>2004-2006</td><td>1-2 years</td><td>$500,000-$1,000,000</td></tr>
<tr><td>Implementation</td><td>2006-2008</td><td>2-3 years</td><td>$1-7 million</td></tr>
<tr><td>Linkages</td><td colspan="4">Stormwater Discharge Reduction Program
Stormwater Retrofit Pilot Study
Water Quality Management Plan
Habitat Protection, Enhancement, and Restoration Plan
Habitat Conservation Plan</td></tr>
<tr><td>Implementation Issues</td><td colspan="4"></td></tr>
<tr><td>Notes</td><td colspan="4">Could be coordinated with wetlands creation. There are opportunities for this project to be integrated into flood projection projects.</td></tr>
</table>

Property Buy-Out Program

<table>
<tr><td>Project Number</td><td colspan="4">FP1-B-03</td></tr>
<tr><td>Project Name</td><td colspan="4">Property Buy-Out Program</td></tr>
<tr><td>Project Manager</td><td colspan="4">Watershed Planning Unit</td></tr>
<tr><td>Primary Goal</td><td colspan="4">Flood Protection/Channel Maintenance: To Protect Humans, Wildlife and Property From Damaging Floods</td></tr>
<tr><td>Primary Objective</td><td colspan="4">FP1_B. Reduced potential for flood damage</td></tr>
<tr><td>Ends Policies</td><td colspan="4">1.2 There is a reduced potential for flood damages.
1.2.1 The cost of reducing the potential for flood damages is balanced with the benefits (including possible environmental restoration and enhancement).</td></tr>
<tr><td>District Role</td><td colspan="4">Leader</td></tr>
<tr><td>Potential Agency Participation</td><td colspan="4">FEMA</td></tr>
<tr><td>Location</td><td colspan="4">Coyote Watershed</td></tr>
<tr><td>Description</td><td colspan="4">Investigate the feasibility of a long-term District property buy-out program. The property buy-out program allows the District to purchase property located in the 1% floodplain (typically this property has previously flooded, though it is not required).</td></tr>
<tr><td>Project Components</td><td colspan="4">a. Identify 1% floodplain areas that see regular flooding
b. Identify any areas that would be difficult to prevent flooding, even with flood protection facilities
c. Determine property values and resident views towards relocation or voluntary buyout
d. Evaluate feasibility to buy-out property</td></tr>
<tr><td rowspan="3">Budget/Schedule</td><td></td><td>Schedule</td><td>Duration</td><td>Budget</td></tr>
<tr><td>Study/Investigation</td><td>2002</td><td>1 year</td><td>$75,000</td></tr>
<tr><td>Implementation</td><td>Ongoing</td><td>Ongoing</td><td>$0-2 mil/yr</td></tr>
<tr><td>Linkages</td><td colspan="4">Habitat Protection, Enhancement, and Restoration Plan
Habitat Conservation Plan
Open Spaces, Trails, and Parks Master Planning
Open Space Acquisition</td></tr>
<tr><td>Implementation Issues</td><td colspan="4">Economic Impact of conversion of lands from commercial/residential/industrial to open space</td></tr>
<tr><td>Notes</td><td colspan="4">Coordinate with Community Rating System</td></tr>
</table>

Lower Silver Creek Flood Protection Project

<table>
<tr><td>Project Number</td><td colspan="4">FP1-B-04</td></tr>
<tr><td>Project Name</td><td colspan="4">Lower Silver Creek Flood Protection Project</td></tr>
<tr><td>Project Manager</td><td colspan="4">Watershed Manager</td></tr>
<tr><td>Primary Goal</td><td colspan="4">Flood Protection/Channel Maintenance: To Protect Humans, Wildlife and Property From Damaging Floods</td></tr>
<tr><td>Primary Objective</td><td colspan="4">FP1_B. Reduced potential for flood damage</td></tr>
<tr><td>Ends Policies</td><td colspan="4">1.2 There is a reduced potential for flood damages.
1.2.1 The cost of reducing the potential for flood damages is balanced with the benefits (including possible environmental restoration and enhancement).
1.2.2.1 Homes, schools, businesses, and transportation networks are protected from flooding and erosion.</td></tr>
<tr><td>District Role</td><td colspan="4">Leader</td></tr>
<tr><td>Potential Agency Participation</td><td colspan="4">US Army Corps of Engineers
City of San Jose
City of Milpitas
Santa Clara County
Natural Resource Conservation Service</td></tr>
<tr><td>Location</td><td colspan="4">Lower Silver Creek; Coyote Creek to Lake Cunningham</td></tr>
<tr><td>Description</td><td colspan="4">Design and construct facilities to protect Lower Silver Creek from Coyote Creek to Lake Cunningham from 1% flood flows.</td></tr>
<tr><td>Project Components</td><td colspan="4">a. Preliminary data collection, including past studies, model runs, etc.
b. Preliminary hydraulic analysis, including model runs, etc.
c. Geotechnical analysis, including hazardous material evaluation
d. Geomorphology and sediment transport modeling analysis – reconnaissance level.
e. Determine fish passage requirements and necessary improvements
f. Determine location of non-flood protection improvements, including trails, riparian/aquatic habitat restoration, bridges, etc.
g. Design flood protection facilities to protect 1% flood.
h. Construct flood protection facilities</td></tr>
<tr><td rowspan="4">Budget/Schedule</td><td></td><td>Schedule</td><td>Duration</td><td>Budget</td></tr>
<tr><td>Planning</td><td>Underway</td><td>1- 2 years</td><td>$450,000</td></tr>
<tr><td>Design</td><td>Ongoing</td><td>1-2 years</td><td>$5,942,000</td></tr>
<tr><td>Construction</td><td>2002-2005</td><td>1-3 years</td><td>$53,082,000</td></tr>
<tr><td>Linkages</td><td colspan="4">See Flood Project Master Linkage List.</td></tr>
<tr><td>Implementation Issues</td><td colspan="4">May require increase in the storage capability of Lake Cunningham, which impacts local businesses and parks such as Raging Waters and City of San Jose lands.</td></tr>
<tr><td>Notes</td><td colspan="4">Currently in Design
See Appendix B for additional information.
This project is for all six reaches.</td></tr>
</table>

Lower Silver Creek/Thompson Creek Flood Protection Project

<table>
<tr><td>Project Number</td><td colspan="4">FP1-B-05</td></tr>
<tr><td>Project Name</td><td colspan="4">Lower Silver Creek/Thompson Creek Flood Protection Project</td></tr>
<tr><td>Project Manager</td><td colspan="4">Watershed Manager</td></tr>
<tr><td>Primary Goal</td><td colspan="4">Flood Protection/Channel Maintenance: To Protect Humans, Wildlife and Property From Damaging Floods</td></tr>
<tr><td>Primary Objective</td><td colspan="4">FP1_B. Reduced potential for flood damages</td></tr>
<tr><td>Ends Policies</td><td colspan="4">1.2 There is a reduced potential for flood damages.
1.2.1 The cost of reducing the potential for flood damages is balanced with the benefits (including possible environmental restoration and enhancement).
1.2.2.1 Homes, schools, businesses, and transportation networks are protected from flooding and erosion.</td></tr>
<tr><td>District Role</td><td colspan="4">Leader</td></tr>
<tr><td>Potential Agency Participation</td><td colspan="4">US Army Corps of Engineers
City of San Jose
City of Milpitas
Santa Clara County
Natural Resource Conservation Service</td></tr>
<tr><td>Location</td><td colspan="4">Lower Silver Creek and Thompson Creek upstream of Lake Cunningham</td></tr>
<tr><td>Description</td><td colspan="4">Design and construct facilities to protect Lower Silver Creek/Thompson Creek Flood Protection Project between Lake Cunningham and Thompson Creek terminus from 1% flood flows.</td></tr>
<tr><td>Project Components</td><td colspan="4">a. Preliminary data collection, including past studies, model runs, etc.
b. Preliminary hydraulic analysis, including model runs, etc.
c. Geotechnical analysis, including hazardous material evaluation
d. Geomorphology and sediment transport modeling analysis – reconnaissance level.
e. Determine fish passage requirements and necessary improvements
f. Determine location of non-flood protection improvements, including trails, riparian/aquatic habitat restoration, bridges, etc.
g. Design flood protection facilities to protect 1% flood.
h. Construct flood protection facilities</td></tr>
<tr><td rowspan="4">Budget/Schedule</td><td></td><td>Schedule</td><td>Duration</td><td>Budget</td></tr>
<tr><td>Planning</td><td>Underway</td><td>1 year</td><td>$800,000</td></tr>
<tr><td>Design</td><td>TBD</td><td>1 year</td><td>TBD</td></tr>
<tr><td>Construction</td><td>TBD</td><td>1-3 years</td><td>TBD</td></tr>
<tr><td>Linkages</td><td colspan="4">See Flood Project Master Linkage List.</td></tr>
<tr><td>Implementation Issues</td><td colspan="4">Sediment removal is dependent on results of Stream Maintenance Program permit acquisition and approval process.</td></tr>
<tr><td>Notes</td><td colspan="4">See Appendix B for additional information.</td></tr>
</table>

Upper Penitencia Creek Flood Protection / Bypass Project

<table>
<tr><td>Project Number</td><td colspan="4">FP1-B-06</td></tr>
<tr><td>Project Name</td><td colspan="4">Upper Penitencia Creek Flood Protection/Bypass Project</td></tr>
<tr><td>Project Manager</td><td colspan="4">Watershed Manager</td></tr>
<tr><td>Primary Goal</td><td colspan="4">Flood Protection/Channel Maintenance: To Protect Humans, Wildlife and Property From Damaging Floods</td></tr>
<tr><td>Primary Objective</td><td colspan="4">FP1_B. Reduced potential for flood damages</td></tr>
<tr><td>Ends Policies</td><td colspan="4">1.2 There is a reduced potential for flood damages.
1.2.1 The cost of reducing the potential for flood damages is balanced with the benefits (including possible environmental restoration and enhancement).
1.2.2.1 Homes, schools, businesses, and transportation networks are protected from flooding and erosion.</td></tr>
<tr><td>District Role</td><td colspan="4">Leader</td></tr>
<tr><td>Potential Agency Participation</td><td colspan="4">US Army Corps of Engineers
City of San Jose
City of Milpitas
Santa Clara County
Natural Resource Conservation Service
BART</td></tr>
<tr><td>Location</td><td colspan="4">Upper Penitencia Creek between Coyote Creek and Dorel Drive</td></tr>
<tr><td>Description</td><td colspan="4">Design and construct facilities to protect Upper Penitencia Creek between Coyote Creek and Dorel Drive from 1% flood flows.</td></tr>
<tr><td>Project Components</td><td colspan="4">a. Preliminary data collection, including past studies, model runs, etc.
b. Preliminary hydraulic analysis, including model runs, etc.
c. Geotechnical analysis, including hazardous material evaluation
d. Geomorphology and sediment transport modeling analysis – reconnaissance level.
e. Determine fish passage requirements and necessary improvements
f. Determine location of non-flood protection improvements, including trails, riparian/aquatic habitat restoration, bridges, etc.
g. Design flood protection facilities to protect 1% flood.
h. Construct flood protection facilities</td></tr>
<tr><td rowspan="4">Budget / Schedule</td><td></td><td>Schedule</td><td>Duration</td><td>Budget</td></tr>
<tr><td>Planning</td><td>Underway</td><td>1-2 years</td><td>$2,491,000</td></tr>
<tr><td>Design</td><td>2004-2007</td><td>1-2 years</td><td>$3,735,000</td></tr>
<tr><td>Construction</td><td>2002-2004 (Bypass)
2007-2010 (Corps)</td><td>1-3 years</td><td>$36,013,000</td></tr>
<tr><td>Linkages</td><td colspan="4">See Flood Project Master Linkage List.</td></tr>
<tr><td>Implementation Issues</td><td colspan="4">Coordinate with BART extension.
Upper Penitencia has been identified as prime steelhead habitat, and is a creek where some streamflow regulation is possible.</td></tr>
</table>

Notes	See Appendix B for additional information This project includes both the Corps project and the Bypass project.

Berryessa/Calera Creek Flood Protection Project

<table>
<tr><td>Project Number</td><td colspan="4">FP1-B-07</td></tr>
<tr><td>Project Name</td><td colspan="4">Berryessa/Calera Creek Flood Protection Project</td></tr>
<tr><td>Project Manager</td><td colspan="4">Watershed Manager</td></tr>
<tr><td>Primary Goal</td><td colspan="4">Flood Protection/Channel Maintenance: To Protect Humans, Wildlife and Property From Damaging Floods</td></tr>
<tr><td>Primary Objective</td><td colspan="4">FP1_B. Reduced potential for flood damages</td></tr>
<tr><td>Ends Policies</td><td colspan="4">1.2 There is a reduced potential for flood damages.
1.2.1 The cost of reducing the potential for flood damages is balanced with the benefits (including possible environmental restoration and enhancement).
1.2.2.1 Homes, schools, businesses, and transportation networks are protected from flooding and erosion.</td></tr>
<tr><td>District Role</td><td colspan="4">Leader</td></tr>
<tr><td>Potential Agency Participation</td><td colspan="4">US Army Corps of Engineers
City of San Jose
City of Milpitas
Santa Clara County
Natural Resource Conservation Service</td></tr>
<tr><td>Location</td><td colspan="4">Repairs: Berryessa Creek between Lower Penitencia Creek and Calaveras Blvd.
Corps: Calera Creek, Berryessa Creek upstream of Calaveras Blvd.</td></tr>
<tr><td>Description</td><td colspan="4">Design and construct facilities to protect Berryessa Creek between Lower Penitencia Creek and Calaveras Blvd. and on Calera Creek from 1% flood flows.</td></tr>
<tr><td>Project Components</td><td colspan="4">a. Preliminary data collection, including past studies, model runs, etc.
b. Preliminary hydraulic analysis, including model runs, etc.
c. Geotechnical analysis, including hazardous material evaluation
d. Geomorphology and sediment transport modeling analysis – reconnaissance level.
e. Determine fish passage requirements and necessary improvements
f. Determine location of non-flood protection improvements, including trails, riparian/aquatic habitat restoration, bridges, etc.
g. Design flood protection facilities to protect 1% flood.
h. Construct flood protection facilities</td></tr>
<tr><td rowspan="4">Budget/Schedule</td><td></td><td>Schedule</td><td>Duration</td><td>Budget</td></tr>
<tr><td>Planning</td><td>Underway</td><td>1-2 years</td><td>$3,283,000</td></tr>
<tr><td>Design</td><td>2002-2003 (Repairs)
2004-2006 (Corps)</td><td>1-2 years</td><td>$4,993,000</td></tr>
<tr><td>Construction</td><td>2003-2004 (Repairs)
2006-2008 (Corps)</td><td>1-3 years</td><td>$41,589,000</td></tr>
<tr><td>Linkages</td><td colspan="4">See Flood Project Master Linkage List.</td></tr>
<tr><td>Implementation Issues</td><td colspan="4">Trails are desired along these creeks, per City of Milpitas Trails Master Plan</td></tr>
</table>

Notes	See Appendix B for additional information. This project includes both the Corps project and the Levee Repair project.

Coyote Creek Flood Protection Project

<table>
<tr><td>Project Number</td><td colspan="4">FP1-B-08</td></tr>
<tr><td>Project Name</td><td colspan="4">Coyote Creek Flood Protection Project</td></tr>
<tr><td>Project Manager</td><td colspan="4">Watershed Manager</td></tr>
<tr><td>Primary Goal</td><td colspan="4">Flood Protection/Channel Maintenance: To Protect Humans, Wildlife and Property From Damaging Floods</td></tr>
<tr><td>Primary Objective</td><td colspan="4">FP1_B. Reduced potential for flood damages</td></tr>
<tr><td>Ends Policies</td><td colspan="4">1.2 There is a reduced potential for flood damages.
1.2.1 The cost of reducing the potential for flood damages is balanced with the benefits (including possible environmental restoration and enhancement).
1.2.2.1 Homes, schools, businesses, and transportation networks are protected from flooding and erosion.</td></tr>
<tr><td>District Role</td><td colspan="4">Leader</td></tr>
<tr><td>Potential Agency Participation</td><td colspan="4">US Army Corps of Engineers
City of San Jose
City of Milpitas
Santa Clara County
Natural Resource Conservation Service</td></tr>
<tr><td>Location</td><td colspan="4">Coyote Creek reaches, separated as follows:
• Montague Expressway to Highway 101
• Highway 101 to Highway 280
• Highway 280 to Highway 101
• Highway 101 to Metcalf Road
• Metcalf Road to Anderson Dam</td></tr>
<tr><td>Description</td><td colspan="4">Design and construct facilities to protect Coyote Creek between Montague Expressway and Anderson Dam from 1% flow flows.</td></tr>
<tr><td>Project Components</td><td colspan="4">a. Preliminary data collection, including past studies, model runs, etc.
b. Preliminary hydraulic analysis, including model runs, etc.
c. Geotechnical analysis, including hazardous material evaluation
d. Geomorphology and sediment transport modeling analysis – reconnaissance level.
e. Determine fish passage requirements and necessary improvements
f. Determine location of non-flood protection improvements, including trails, riparian/aquatic habitat restoration, bridges, etc.
g. Design flood protection facilities to protect 1% flood.
h. Construct flood protection facilities

Additional project components may include:

i. Plant ROW areas between 280 and Montague
j. Acquire biological corridor land from 280 to Montague, and Tully to Phalen (connect park chain & riparian corridor)
k. Establish new trail between Dixon Landing and u/s Capitol Expressway</td></tr>
<tr><td>Budget/Schedule</td><td></td><td>Schedule</td><td>Duration</td><td>Budget</td></tr>
</table>

	Planning	2003-2017	1-2 years per reach/segment	TBD
	Design	2007-2020	1-2 years per reach/segment	TBD
	Construction	2007-2022	1-3 years per reach/segment	TBD
Linkages	See Flood Project Master Linkage List.			
Implementation Issues	Measure B provided funding for construction of flood protection projects between Montague Boulevard and Highway 101.			
Notes				

East Penitencia Creek Flood Protection Project

<table>
<tr><td>Project Number</td><td colspan="4">FP1-B-09</td></tr>
<tr><td>Project Name</td><td colspan="4">East Penitencia Creek Flood Protection Project</td></tr>
<tr><td>Project Manager</td><td colspan="4">Watershed Manager</td></tr>
<tr><td>Primary Goal</td><td colspan="4">Flood Protection/Channel Maintenance: To Protect Humans, Wildlife and Property From Damaging Floods</td></tr>
<tr><td>Primary Objective</td><td colspan="4">FP1_B. Reduced potential for flood damages</td></tr>
<tr><td>Ends Policies</td><td colspan="4">1.2 There is a reduced potential for flood damages.
1.2.1 The cost of reducing the potential for flood damages is balanced with the benefits (including possible environmental restoration and enhancement).
1.2.2.1 Homes, schools, businesses, and transportation networks are protected from flooding and erosion.</td></tr>
<tr><td>District Role</td><td colspan="4">Leader</td></tr>
<tr><td>Potential Agency Participation</td><td colspan="4">US Army Corps of Engineers
City of San Jose
Santa Clara County</td></tr>
<tr><td>Location</td><td colspan="4">Lower Penitencia Creek - LOJ</td></tr>
<tr><td>Description</td><td colspan="4">Design and construct facilities to protect East Penitencia Creek between Lower Penitencia Creek and the LOJ from 1% flood flows.</td></tr>
<tr><td>Project Components</td><td colspan="4">a. Preliminary data collection, including past studies, model runs, etc.
b. Preliminary hydraulic analysis, including model runs, etc.
c. Geotechnical analysis, including hazardous material evaluation
d. Geomorphology and sediment transport modeling analysis – reconnaissance level.
e. Determine fish passage requirements and necessary improvements
f. Determine location of non-flood protection improvements, including trails, riparian/aquatic habitat restoration, bridges, etc.
g. Design flood protection facilities to protect 1% flood.
h. Construct flood protection facilities</td></tr>
<tr><td rowspan="4">Budget/Schedule</td><td></td><td>Schedule</td><td>Duration</td><td>Budget</td></tr>
<tr><td>Planning</td><td>2035-2037</td><td>1-2 years</td><td>TBD</td></tr>
<tr><td>Design</td><td>2037-2039</td><td>1-2 years</td><td>TBD</td></tr>
<tr><td>Construction</td><td>2039-2042</td><td>1-3 years</td><td>TBD</td></tr>
<tr><td>Linkages</td><td colspan="4">See Flood Project Master Linkage List.</td></tr>
<tr><td>Implementation Issues</td><td colspan="4">Implementation largely based on available funds.</td></tr>
<tr><td>Notes</td><td colspan="4"></td></tr>
</table>

Fisher Creek Flood Protection Project

<table>
<tr><td>Project Number</td><td colspan="4">FP1-B-10</td></tr>
<tr><td>Project Name</td><td colspan="4">Fisher Creek Flood Protection Project</td></tr>
<tr><td>Project Manager</td><td colspan="4">Watershed Manager</td></tr>
<tr><td>Primary Goal</td><td colspan="4">Flood Protection/Channel Maintenance: To Protect Humans, Wildlife and Property From Damaging Floods</td></tr>
<tr><td>Primary Objective</td><td colspan="4">FP1_B. Reduced potential for flood damages</td></tr>
<tr><td>Ends Policies</td><td colspan="4">1.2 There is a reduced potential for flood damages.
1.2.1 The cost of reducing the potential for flood damages is balanced with the benefits (including possible environmental restoration and enhancement).
1.2.2.1 Homes, schools, businesses, and transportation networks are protected from flooding and erosion.</td></tr>
<tr><td>District Role</td><td colspan="4">Leader</td></tr>
<tr><td>Potential Agency Participation</td><td colspan="4">US Army Corps of Engineers
City of San Jose
City of Milpitas
Santa Clara County
Natural Resource Conservation Service</td></tr>
<tr><td>Location</td><td colspan="4">Fisher Creek along Coyote Creek and Bailey Ave., then Bailey Ave. - LOJ.</td></tr>
<tr><td>Description</td><td colspan="4">Design and construct facilities to protect Fisher Creek between Coyote Creek and LOJ from 1% flood flows.</td></tr>
<tr><td>Project Components</td><td colspan="4">a. Preliminary data collection, including past studies, model runs, etc.
b. Preliminary hydraulic analysis, including model runs, etc.
c. Geotechnical analysis, including hazardous material evaluation
d. Geomorphology and sediment transport modeling analysis – reconnaissance level.
e. Determine fish passage requirements and necessary improvements
f. Determine location of non-flood protection improvements, including trails, riparian/aquatic habitat restoration, bridges, etc.
g. Design flood protection facilities to protect 1% flood.
h. Construct flood protection facilities</td></tr>
<tr><td rowspan="4">Budget/Schedule</td><td></td><td>Schedule</td><td>Duration</td><td>Budget</td></tr>
<tr><td>Planning</td><td>2030-2031</td><td>1-2 years</td><td>TBD</td></tr>
<tr><td>Design</td><td>2032-2032</td><td>1-2 years</td><td>TBD</td></tr>
<tr><td>Construction</td><td>2032-2035</td><td>1-3 years</td><td>TBD</td></tr>
<tr><td>Linkages</td><td colspan="4">See Flood Project Master Linkage List.</td></tr>
<tr><td>Implementation Issues</td><td colspan="4">Implementation largely based on available funds.</td></tr>
<tr><td>Notes</td><td colspan="4">Project tentatively is broken into three stages.</td></tr>
</table>

Fowler Creek Flood Protection Project

<table>
<tr><td>Project Number</td><td colspan="4">FP1-B-11</td></tr>
<tr><td>Project Name</td><td colspan="4">Fowler Creek Flood Protection Project</td></tr>
<tr><td>Project Manager</td><td colspan="4">Watershed Manager</td></tr>
<tr><td>Primary Goal</td><td colspan="4">Flood Protection/Channel Maintenance: To Protect Humans, Wildlife and Property From Damaging Floods</td></tr>
<tr><td>Primary Objective</td><td colspan="4">FP1_B. Reduced potential for flood damages</td></tr>
<tr><td>Ends Policies</td><td colspan="4">1.2 There is a reduced potential for flood damages.
1.2.1 The cost of reducing the potential for flood damages is balanced with the benefits (including possible environmental restoration and enhancement).
1.2.2.1 Homes, schools, businesses, and transportation networks are protected from flooding and erosion.</td></tr>
<tr><td>District Role</td><td colspan="4">Leader</td></tr>
<tr><td>Potential Agency Participation</td><td colspan="4">US Army Corps of Engineers
City of San Jose
City of Milpitas
Santa Clara County
Natural Resource Conservation Service</td></tr>
<tr><td>Location</td><td colspan="4">Fowler Creek at earth berm - LOJ</td></tr>
<tr><td>Description</td><td colspan="4">Design and construct facilities to protect Fowler Creek between earth berm to LOJ from 1% flood flows.</td></tr>
<tr><td>Project Components</td><td colspan="4">a. Preliminary data collection, including past studies, model runs, etc.
b. Preliminary hydraulic analysis, including model runs, etc.
c. Geotechnical analysis, including hazardous material evaluation
d. Geomorphology and sediment transport modeling analysis – reconnaissance level.
e. Determine fish passage requirements and necessary improvements
f. Determine location of non-flood protection improvements, including trails, riparian/aquatic habitat restoration, bridges, etc.
g. Design flood protection facilities to protect 1% flood.
h. Construct flood protection facilities</td></tr>
<tr><td rowspan="4">Budget/Schedule</td><td></td><td>Schedule</td><td>Duration</td><td>Budget</td></tr>
<tr><td>Planning</td><td>TBD</td><td>1-2 years</td><td>TBD</td></tr>
<tr><td>Design</td><td>TBD</td><td>1-2 years</td><td>TBD</td></tr>
<tr><td>Construction</td><td>TBD</td><td>1-3 years</td><td>TBD</td></tr>
<tr><td>Linkages</td><td colspan="4">See Flood Project Master Linkage List.</td></tr>
<tr><td>Implementation Issues</td><td colspan="4">Implementation largely based on available funds.</td></tr>
<tr><td>Notes</td><td colspan="4"></td></tr>
</table>

Los Coches Creek Flood Protection Project

Project Number	FP1-B-12
Project Name	Los Coches Creek Flood Protection Project
Project Manager	Watershed Manager
Primary Goal	Flood Protection/Channel Maintenance: To Protect Humans, Wildlife and Property From Damaging Floods
Primary Objective	FP1_B. Reduced potential for flood damages
Ends Policies	1.2 There is a reduced potential for flood damages. 1.2.1 The cost of reducing the potential for flood damages is balanced with the benefits (including possible environmental restoration and enhancement). 1.2.2.1 Homes, schools, businesses, and transportation networks are protected from flooding and erosion.
District Role	Leader
Potential Agency Participation	US Army Corps of Engineers City of San Jose City of Milpitas Santa Clara County Natural Resource Conservation Service
Location	Los Coches Creek between Berryessa Creek and Highway 680, Highway 680 and Temple Drive
Description	Design and construct facilities to protect Los Coches Creek between Berryessa Creek and Temple Drive from 1% flood flows.
Project Components	a. Preliminary data collection, including past studies, model runs, etc. b. Preliminary hydraulic analysis, including model runs, etc. c. Geotechnical analysis, including hazardous material evaluation d. Geomorphology and sediment transport modeling analysis – reconnaissance level. e. Determine fish passage requirements and necessary improvements f. Determine location of non-flood protection improvements, including trails, riparian/aquatic habitat restoration, bridges, etc. g. Design flood protection facilities to protect 1% flood. h. Construct flood protection facilities

Budget/Schedule		Schedule	Duration	Budget
	Planning	2035-2037	1-2 years	TBD
	Design	2037-2039	1-2 years	TBD
	Construction	2039-2041	1-3 years	TBD

Linkages	See Flood Project Master Linkage List.
Implementation Issues	Implementation largely based on available funds.
Notes	

Miguelita Creek Flood Protection Project

<table>
<tr><td>Project Number</td><td colspan="4">FP1-B-13</td></tr>
<tr><td>Project Name</td><td colspan="4">Miguelita Creek Flood Protection Project</td></tr>
<tr><td>Project Manager</td><td colspan="4">Watershed Manager</td></tr>
<tr><td>Primary Goal</td><td colspan="4">Flood Protection/Channel Maintenance: To Protect Humans, Wildlife and Property From Damaging Floods</td></tr>
<tr><td>Primary Objective</td><td colspan="4">FP1_B. Reduced potential for flood damages</td></tr>
<tr><td>Ends Policies</td><td colspan="4">1.2 There is a reduced potential for flood damages.
1.2.1 The cost of reducing the potential for flood damages is balanced with the benefits (including possible environmental restoration and enhancement).
1.2.2.1 Homes, schools, businesses, and transportation networks are protected from flooding and erosion.</td></tr>
<tr><td>District Role</td><td colspan="4">Leader</td></tr>
<tr><td>Potential Agency Participation</td><td colspan="4">US Army Corps of Engineers
City of San Jose
City of Milpitas
Santa Clara County
Natural Resource Conservation Service</td></tr>
<tr><td>Location</td><td colspan="4">Miguelita Creek between lower Silver Creek and Toyon Road</td></tr>
<tr><td>Description</td><td colspan="4">Design and construct facilities to protect Miguelita Creek between Lower Silver Creek and Toyon Road from 1% flood flows.</td></tr>
<tr><td>Project Components</td><td colspan="4">a. Preliminary data collection, including past studies, model runs, etc.
b. Preliminary hydraulic analysis, including model runs, etc.
c. Geotechnical analysis, including hazardous material evaluation
d. Geomorphology and sediment transport modeling analysis – reconnaissance level.
e. Determine fish passage requirements and necessary improvements
f. Determine location of non-flood protection improvements, including trails, riparian/aquatic habitat restoration, bridges, etc.
g. Design flood protection facilities to protect 1% flood.
h. Construct flood protection facilities</td></tr>
<tr><td rowspan="4">Budget/Schedule</td><td></td><td>Schedule</td><td>Duration</td><td>Budget</td></tr>
<tr><td>Planning</td><td>TBD</td><td>1-2 years</td><td>TBD</td></tr>
<tr><td>Design</td><td>TBD</td><td>1-2 years</td><td>TBD</td></tr>
<tr><td>Construction</td><td>TBD</td><td>1-3 years</td><td>TBD</td></tr>
<tr><td>Linkages</td><td colspan="4">See Flood Project Master Linkage List.</td></tr>
<tr><td>Implementation Issues</td><td colspan="4">Implementation largely based on available funds.</td></tr>
<tr><td>Notes</td><td colspan="4"></td></tr>
</table>

North Babb Creek Flood Protection Project

Project Number	FP1-B-14			
Project Name	North Babb Creek Flood Protection Project			
Project Manager	Watershed Manager			
Primary Goal	Flood Protection/Channel Maintenance: To Protect Humans, Wildlife and Property From Damaging Floods			
Primary Objective	FP1_B. Reduced potential for flood damages			
Ends Policies	1.2 There is a reduced potential for flood damages. 1.2.1 The cost of reducing the potential for flood damages is balanced with the benefits (including possible environmental restoration and enhancement). 1.2.2.1 Homes, schools, businesses, and transportation networks are protected from flooding and erosion.			
District Role	Leader			
Potential Agency Participation	US Army Corps of Engineers City of San Jose City of Milpitas Santa Clara County Natural Resource Conservation Service			
Location	North Babb Creek between Lower Silver Creek and Mahoney.			
Description	Design and construct facilities to protect North Babb Creek between Lower Silver Creek and Mahoney from 1% flood flows.			
Project Components	a. Preliminary data collection, including past studies, model runs, etc. b. Preliminary hydraulic analysis, including model runs, etc. c. Geotechnical analysis, including hazardous material evaluation d. Geomorphology and sediment transport modeling analysis – reconnaissance level. e. Determine fish passage requirements and necessary improvements f. Determine location of non-flood protection improvements, including trails, riparian/aquatic habitat restoration, bridges, etc. g. Design flood protection facilities to protect 1% flood. h. Construct flood protection facilities			
Budget/Schedule		Schedule	Duration	Budget
	Planning	TBD	1-2 years	TBD
	Design	TBD	1-2 years	TBD
	Construction	TBD	1-3 years	TBD
Linkages	See Flood Project Master Linkage List.			
Implementation Issues	Implementation largely based on available funds.			
Notes				

South Babb Creek Flood Protection Project

<table>
<tr><td>Project Number</td><td colspan="4">FP1-B-15</td></tr>
<tr><td>Project Name</td><td colspan="4">South Babb Creek Flood Protection Project</td></tr>
<tr><td>Project Manager</td><td colspan="4">Watershed Manager</td></tr>
<tr><td>Primary Goal</td><td colspan="4">Flood Protection/Channel Maintenance: To Protect Humans, Wildlife and Property From Damaging Floods</td></tr>
<tr><td>Primary Objective</td><td colspan="4">FP1_B. Reduced potential for flood damages</td></tr>
<tr><td>Ends Policies</td><td colspan="4">1.2 There is a reduced potential for flood damages.
1.2.1 The cost of reducing the potential for flood damages is balanced with the benefits (including possible environmental restoration and enhancement).
1.2.2.1 Homes, schools, businesses, and transportation networks are protected from flooding and erosion.</td></tr>
<tr><td>District Role</td><td colspan="4">Leader</td></tr>
<tr><td>Potential Agency Participation</td><td colspan="4">US Army Corps of Engineers
City of San Jose
City of Milpitas
Santa Clara County
Natural Resource Conservation Service</td></tr>
<tr><td>Location</td><td colspan="4">South Babb Creek between Lower Silver Creek and upstream of Clayton</td></tr>
<tr><td>Description</td><td colspan="4">Design and construct facilities to protect South Babb Creek between Lower Silver Creek and u/s Clayton from 1% flood flows.</td></tr>
<tr><td>Project Components</td><td colspan="4">a. Preliminary data collection, including past studies, model runs, etc.
b. Preliminary hydraulic analysis, including model runs, etc.
c. Geotechnical analysis, including hazardous material evaluation
d. Geomorphology and sediment transport modeling analysis – reconnaissance level.
e. Determine fish passage requirements and necessary improvements
f. Determine location of non-flood protection improvements, including trails, riparian/aquatic habitat restoration, bridges, etc.
g. Design flood protection facilities to protect 1% flood.
h. Construct flood protection facilities</td></tr>
<tr><td rowspan="4">Budget/Schedule</td><td></td><td>Schedule</td><td>Duration</td><td>Budget</td></tr>
<tr><td>Planning</td><td>2009-2011</td><td>1-2 years</td><td>TBD</td></tr>
<tr><td>Design</td><td>2011-2013</td><td>1-2 years</td><td>TBD</td></tr>
<tr><td>Construction</td><td>2013-2016</td><td>1-3 years</td><td>TBD</td></tr>
<tr><td>Linkages</td><td colspan="4">See Flood Project Master Linkage List.</td></tr>
<tr><td>Implementation Issues</td><td colspan="4">Implementation largely based on available funds.</td></tr>
<tr><td>Notes</td><td colspan="4"></td></tr>
</table>

Quimby Creek Flood Protection Project

<table>
<tr><td>Project Number</td><td colspan="4">FP1-B-16</td></tr>
<tr><td>Project Name</td><td colspan="4">Quimby Creek Flood Protection Project</td></tr>
<tr><td>Project Manager</td><td colspan="4">Watershed Manager</td></tr>
<tr><td>Primary Goal</td><td colspan="4">Flood Protection/Channel Maintenance: To Protect Humans, Wildlife and Property From Damaging Floods</td></tr>
<tr><td>Primary Objective</td><td colspan="4">FP1_B. Reduced potential for flood damages</td></tr>
<tr><td>Ends Policies</td><td colspan="4">1.2 There is a reduced potential for flood damages.
1.2.1 The cost of reducing the potential for flood damages is balanced with the benefits (including possible environmental restoration and enhancement).
1.2.2.1 Homes, schools, businesses, and transportation networks are protected from flooding and erosion.</td></tr>
<tr><td>District Role</td><td colspan="4">Leader</td></tr>
<tr><td>Potential Agency Participation</td><td colspan="4">US Army Corps of Engineers
City of San Jose
City of Milpitas
Santa Clara County
Natural Resource Conservation Service</td></tr>
<tr><td>Location</td><td colspan="4">Quimby Creek upstream Anderson to the LOJ</td></tr>
<tr><td>Description</td><td colspan="4">Design and construct facilities to protect Quimby Creek u/s Anderson to the LOJ from 1% flood flows.</td></tr>
<tr><td>Project Components</td><td colspan="4">a. Preliminary data collection, including past studies, model runs, etc.
b. Preliminary hydraulic analysis, including model runs, etc.
c. Geotechnical analysis, including hazardous material evaluation
d. Geomorphology and sediment transport modeling analysis – reconnaissance level.
e. Determine fish passage requirements and necessary improvements
f. Determine location of non-flood protection improvements, including trails, riparian/aquatic habitat restoration, bridges, etc.
g. Design flood protection facilities to protect 1% flood.
h. Construct flood protection facilities</td></tr>
<tr><td rowspan="4">Budget/Schedule</td><td></td><td>Schedule</td><td>Duration</td><td>Budget</td></tr>
<tr><td>Planning</td><td>TBD</td><td>1-2 years</td><td>TBD</td></tr>
<tr><td>Design</td><td>TBD</td><td>1-2 years</td><td>TBD</td></tr>
<tr><td>Construction</td><td>TBD</td><td>1-3 years</td><td>TBD</td></tr>
<tr><td>Linkages</td><td colspan="4">See Flood Project Master Linkage List.</td></tr>
<tr><td>Implementation Issues</td><td colspan="4">Implementation largely based on available funds.</td></tr>
<tr><td>Notes</td><td colspan="4"></td></tr>
</table>

Sierra Creek Flood Protection Project

<table>
<tr><td>Project Number</td><td colspan="4">FP1-B-17</td></tr>
<tr><td>Project Name</td><td colspan="4">Sierra Creek Flood Protection Project</td></tr>
<tr><td>Project Manager</td><td colspan="4">Watershed Manager</td></tr>
<tr><td>Primary Goal</td><td colspan="4">Flood Protection/Channel Maintenance: To Protect Humans, Wildlife and Property From Damaging Floods</td></tr>
<tr><td>Primary Objective</td><td colspan="4">FP1_B. Reduced potential for flood damages</td></tr>
<tr><td>Ends Policies</td><td colspan="4">1.2 There is a reduced potential for flood damages.
1.2.1 The cost of reducing the potential for flood damages is balanced with the benefits (including possible environmental restoration and enhancement).
1.2.2.1 Homes, schools, businesses, and transportation networks are protected from flooding and erosion.</td></tr>
<tr><td>District Role</td><td colspan="4">Leader</td></tr>
<tr><td>Potential Agency Participation</td><td colspan="4">US Army Corps of Engineers
City of San Jose
City of Milpitas
Santa Clara County
Natural Resource Conservation Service</td></tr>
<tr><td>Location</td><td colspan="4">Sierra Creek between Berryessa Creek and Mauna Kea Street; Mauna Kea Street to the LOJ.</td></tr>
<tr><td>Description</td><td colspan="4">Design and construct facilities to protect Sierra Creek between Berryessa Creek to the LOJ from 1% flood flows.</td></tr>
<tr><td>Project Components</td><td colspan="4">a. Preliminary data collection, including past studies, model runs, etc.
b. Preliminary hydraulic analysis, including model runs, etc.
c. Geotechnical analysis, including hazardous material evaluation
d. Geomorphology and sediment transport modeling analysis – reconnaissance level.
e. Determine fish passage requirements and necessary improvements
f. Determine location of non-flood protection improvements, including trails, riparian/aquatic habitat restoration, bridges, etc.
g. Design flood protection facilities to protect 1% flood.
h. Construct flood protection facilities</td></tr>
<tr><td rowspan="4">Budget/Schedule</td><td></td><td>Schedule</td><td>Duration</td><td>Budget</td></tr>
<tr><td>Planning</td><td>2019-2021</td><td>1-2 years</td><td>TBD</td></tr>
<tr><td>Design</td><td>2021-2023</td><td>1-2 years</td><td>TBD</td></tr>
<tr><td>Construction</td><td>2023-2026</td><td>1-3 years</td><td>TBD</td></tr>
<tr><td>Linkages</td><td colspan="4">See Flood Project Master Linkage List.</td></tr>
<tr><td>Implementation Issues</td><td colspan="4">Implementation largely based on available funds.</td></tr>
<tr><td>Notes</td><td colspan="4"></td></tr>
</table>

Upper Silver Creek Flood Protection Project

Project Number	FP1-B-18			
Project Name	Upper Silver Creek Flood Protection Project			
Project Manager	Watershed Manager			
Primary Goal	Flood Protection/Channel Maintenance: To Protect Humans, Wildlife and Property From Damaging Floods			
Primary Objective	FP1_B. Reduced potential for flood damages			
Ends Policies	1.2 There is a reduced potential for flood damages. 1.2.1 The cost of reducing the potential for flood damages is balanced with the benefits (including possible environmental restoration and enhancement). 1.2.2.1 Homes, schools, businesses, and transportation networks are protected from flooding and erosion.			
District Role	Leader			
Potential Agency Participation	US Army Corps of Engineers City of San Jose City of Milpitas Santa Clara County Natural Resource Conservation Service			
Location	Upper Silver Creek between Highway 101 and Place Way; Place Way to Silver Creek Road			
Description	Design and construct facilities to protect Upper Silver Creek between Highway 101 and Silver Creek Road from 1% flood flows.			
Project Components	a. Preliminary data collection, including past studies, model runs, etc. b. Preliminary hydraulic analysis, including model runs, etc. c. Geotechnical analysis, including hazardous material evaluation d. Geomorphology and sediment transport modeling analysis – reconnaissance level. e. Determine fish passage requirements and necessary improvements f. Determine location of non-flood protection improvements, including trails, riparian/aquatic habitat restoration, bridges, etc. g. Design flood protection facilities to protect 1% flood. h. Construct flood protection facilities			
Budget/Schedule		Schedule	Duration	Budget
	Planning	2035-2037	1-2 years	TBD
	Design	2037-2039	1-2 year	TBD
	Construction	2039-2042	1-3 years	TBD
Linkages	See Flood Project Master Linkage List.			
Implementation Issues	Implementation largely based on available funds.			
Notes				

Flood Mapping Update and Insurance Liaison

<table>
<tr><td>Project Number</td><td colspan="4">FP1-C-01</td></tr>
<tr><td>Project Name</td><td colspan="4">Flood Mapping and Insurance Liaison</td></tr>
<tr><td>Project Manager</td><td colspan="4">Watershed Management</td></tr>
<tr><td>Primary Goal</td><td colspan="4">Flood Protection/Channel Maintenance: To Protect Humans, Wildlife and Property From Damaging Floods</td></tr>
<tr><td>Primary Objective</td><td colspan="4">FP1_C. Reduce flood insurance costs to homeowners and other property owners</td></tr>
<tr><td>Ends Policies</td><td colspan="4">1.2.1 The cost of reducing the potential for flood damages is balanced with the benefits (including possible environmental restoration and enhancement).
1.2.2.1 Homes, schools, businesses, and transportation networks are protected from flooding and erosion.</td></tr>
<tr><td>District Role</td><td colspan="4">Leader or Partner</td></tr>
<tr><td>Potential Agency Participation</td><td colspan="4">Federal Emergency management Agency (FEMA)
City of San Jose
City of Milpitas
Santa Clara County
Local Community groups</td></tr>
<tr><td>Location</td><td colspan="4">Coyote Watershed</td></tr>
<tr><td>Description</td><td colspan="4">Assist FEMA in their ongoing efforts to manage floodplains and identify flood hazards, through District liaison with the public, cities, and county relative to their participation in FEMA's National Flood Insurance Program and the Community Rating System Program. Program also includes updating and publishing District flooding and facilities maps and establishing data links (GIS and FTP).</td></tr>
<tr><td>Project Components</td><td colspan="4">a. Liaison with public, cities and FEMA to continue local participation in the National Flood Insurance Program
b. Prepare annual Community Rating System recertification package
c. Update maps that identify local flood hazards
d. Maintain the Waterways Management model of District facilities</td></tr>
<tr><td rowspan="3">Budget/Schedule</td><td></td><td>Schedule</td><td>Duration</td><td>Budget</td></tr>
<tr><td>Flood Insurance Liaison</td><td>Ongoing</td><td>Ongoing</td><td>$85,000</td></tr>
<tr><td>Flood Map Update</td><td>Ongoing</td><td>Ongoing</td><td>$247,000</td></tr>
<tr><td>Linkages</td><td colspan="4">Open Space Acquisition</td></tr>
<tr><td>Implementation Issues</td><td colspan="4">Preparing projects that increase CRS rating</td></tr>
<tr><td>Notes</td><td colspan="4"></td></tr>
</table>

Open Space Acquisition

<table>
<tr><td>Project Number</td><td colspan="4">FP1-E-01</td></tr>
<tr><td>Project Name</td><td colspan="4">Open Space Acquisition</td></tr>
<tr><td>Project Manager</td><td colspan="4">Watershed Management</td></tr>
<tr><td>Primary Goal</td><td colspan="4">Flood Protection/Channel Maintenance: To Protect Humans, Wildlife and Property From Damaging Floods</td></tr>
<tr><td>Primary Objective</td><td colspan="4">FP1_E. Protect, enhance and preserve natural flood plains</td></tr>
<tr><td>Ends Policies</td><td colspan="4">2.2 There are additional open spaces, trails, and parks along creeks and in the watersheds when reasonable and appropriate.</td></tr>
<tr><td>District Role</td><td colspan="4">Supporter</td></tr>
<tr><td>Potential Agency Participation</td><td colspan="4">Santa Clara County Open Space Authority (SCCOSA)</td></tr>
<tr><td>Location</td><td colspan="4">Coyote Watershed</td></tr>
<tr><td>Description</td><td colspan="4">Identify critically significant lands to be preserved as open spaces and prioritize for purchase and/or easement.</td></tr>
<tr><td>Project Components</td><td colspan="4">a. In coordination with SCCOSA, identify areas for open space, such as Coyote Valley Greenbelt.
b. Prioritize sites identified for acquisition, based on benefits provided (flood protection, stormwater runoff reduction, habitat protection, water quality issues, etc)
c. Determine future use of site (trails, parks, and/or habitat)
d. Examine option of purchasing Cherry Flat Reservoir and surrounding lands to modify reservoir operation to benefit aquatic habitats in Arroyo Aguague and Upper Penitencia Creek.
e. Meet with SCCOSA and the Nature Conservancy to determine candidate areas for acquisition, partnerships, and responsibilities.
f. Locate priority open space above District reservoirs for water quality improvements.
g. Identifying priority stream riparian corridors for preservation, and purchasing buffer lands or conservation easements.
h. Compile and finalize list of candidate projects/land acquisitions.
i. Determine which of these candidate projects/land acquisitions is reasonable and appropriate to pursue, such as it meeting budget and environmental benefit requirements.
j. Acquire appropriate land.
k. Implement action items include land purchase, rezoning as permanent open space or purchase of development easements in existing open space areas.</td></tr>
<tr><td rowspan="3">Budget/Schedule</td><td></td><td>Schedule</td><td>Duration</td><td>Budget</td></tr>
<tr><td>Study</td><td>Ongoing</td><td>Ongoing</td><td>$100,000/yr</td></tr>
<tr><td>Land Acquisition/ Maintenance</td><td>Ongoing</td><td>Ongoing</td><td>$500,000/yr</td></tr>
<tr><td>Linkages</td><td colspan="4">Open Spaces, Trails, and Parks Master Planning
Habitat Protection, Enhancement, and Restoration Plan
Habitat Conservation Plan
Property Buy-Out Program</td></tr>
<tr><td>Implementation Issues</td><td colspan="4">Coordinate with Measure B funding</td></tr>
</table>

Notes	SCCOSA has more experience – money could go to fund work performed by SCCOSA, with maintenance assistance for lands above reservoirs provided by District

Multi-Objective Design Study

<table>
<tr><td>Project Number</td><td colspan="4">FP2-A-01</td></tr>
<tr><td>Project Name</td><td colspan="4">Multi-Objective Design Study</td></tr>
<tr><td>Project Manager</td><td colspan="4">To Be Determined</td></tr>
<tr><td>Primary Goal</td><td colspan="4">Flood Protection/Channel Maintenance: Increase ecological health and appearance of our natural and modified channels.</td></tr>
<tr><td>Primary Objective</td><td colspan="4">FP2_A. Balance the needs of humans and the environment</td></tr>
<tr><td>Ends Policies</td><td colspan="4">1.2.1 The cost of reducing the potential for flood damages is balanced with the benefits (including possible environmental restoration and enhancement).
1.2.2 There is a balance between the contributions of watersheds and streams in providing for public health and safety and in providing protection of natural resource benefits.
2.1.1.1 Opportunities to enhance or restore natural resource benefits of streams and watersheds are identified.</td></tr>
<tr><td>SCVWD Role</td><td colspan="4">Partner</td></tr>
<tr><td>Agency Participation</td><td colspan="4">RWQCB
CDFG
NMFS
USFWS
USACOE</td></tr>
<tr><td>Location</td><td colspan="4">Throughout District</td></tr>
<tr><td>Description</td><td colspan="4">Determine areas where instream habitat diversity, riparian habitat, and adequate hydraulic capacity could be achieved. Determine structural and morphological changes needed to achieve these objectives.</td></tr>
<tr><td>Tasks</td><td colspan="4">• Identify flood protection facilities which disrupt riparian and instream habitat
• Research current environmentally sensitive flood protection methods
• Determine if flood protection facilities could be modified to increase riparian or instream habitat without sacrificing flood protection.
• Design flood protection modifications
• Construct flood protection modifications</td></tr>
<tr><td rowspan="2">Budget/Schedule</td><td></td><td>Schedule</td><td>Duration</td><td>Budget</td></tr>
<tr><td></td><td>TBD</td><td>TBD</td><td>TBD</td></tr>
<tr><td>Linkages</td><td colspan="4">See Flood Project Master Linkage List.</td></tr>
<tr><td>Implementation Issues</td><td colspan="4">To be determined</td></tr>
<tr><td>Notes</td><td colspan="4"></td></tr>
</table>

Coyote Creek Mitigation

<table>
<tr><td>Project Number</td><td colspan="4">FP2-B-01</td></tr>
<tr><td>Project Name</td><td colspan="4">Coyote Creek Mitigation</td></tr>
<tr><td>Project Manager</td><td colspan="4">Watershed Planning Manager(s)</td></tr>
<tr><td>Primary Goal</td><td colspan="4">Flood Protection/Channel Maintenance: Increase ecological health and appearance of our natural and modified channels.</td></tr>
<tr><td>Primary Objective</td><td colspan="4">FP2_B. Maintain natural stream functions</td></tr>
<tr><td>Ends Policies</td><td colspan="4">2.1Watersheds, streams, and the natural resources therein are protected and when appropriate enhanced or restored.</td></tr>
<tr><td>District Role</td><td colspan="4">Leader or Partner</td></tr>
<tr><td>Potential Agency Participation</td><td colspan="4">City of San Jose
City of Milpitas
Regional Water Quality Control Board</td></tr>
<tr><td>Location</td><td colspan="4">Coyote Creek - Bay to Montague Expressway</td></tr>
<tr><td>Description</td><td colspan="4">This project is to satisfy the permit condition of the 1984 Coyote Creek Flood Control Project from the San Francisco bay to Montague Expressway. This project includes management and monitoring of mitigation measures for vegetation, groundwater, and surface water in Reaches 1B, 2 and 3 of Coyote Creek.</td></tr>
<tr><td>Project Components</td><td colspan="4">a. Monitor Coyote Creek in compliance with permit requirements
b. Track data collected in GIS format – coordinate data sampling efforts with those by SFEI
c. Propose measures to limit pollution of contaminants exceeding maximum limits
d. Identify potential mitigation sites for future riparian and aquatic restoration along Coyote Creek</td></tr>
<tr><td rowspan="3">Budget/Schedule</td><td></td><td>Schedule</td><td>Duration</td><td>Budget</td></tr>
<tr><td>Ongoing Reporting</td><td>Annually</td><td>Ongoing</td><td rowspan="2">$471,000 (FY 01/02)</td></tr>
<tr><td>Monitoring</td><td>Ongoing</td><td>Ongoing</td></tr>
<tr><td>Linkages</td><td colspan="4">Measure B flood protection projects
Upper Penitencia Creek Flood Protection/Bypass Project
Interstate 880 Widening
Water Quality Management Plan
TMDL/Diazinon Management Program
Coyote Creek Sediment Control</td></tr>
<tr><td>Implementation Issues</td><td colspan="4">Identification of required mitigation associated with non-District projects</td></tr>
<tr><td>Notes</td><td colspan="4">Potential need for additional streamflow monitoring stations in these reaches.
Impact of new construction of bridges and roads at Dixon Landing Road is unknown.</td></tr>
</table>

Stream Channel Feature Restoration

<table>
<tr><td>Project Number</td><td colspan="4">FP2-B-02</td></tr>
<tr><td>Project Name</td><td colspan="4">Stream Channel Feature Restoration</td></tr>
<tr><td>Project Manager</td><td colspan="4">Coyote Watershed Program</td></tr>
<tr><td>Primary Goal</td><td colspan="4">Flood Protection/Channel Maintenance: Increase ecological health and appearance of our natural and modified channels.</td></tr>
<tr><td>Primary Objective</td><td colspan="4">FP2_B: Maintain Natural Stream Function</td></tr>
<tr><td>Ends Policies</td><td colspan="4">1.2.1The cost of reducing the potential for flood damages is balanced with benefits (including possible environmental restoration and enhancement).
2.1Watersheds, streams, and the natural resources therein are protected and when appropriate enhanced or restored.</td></tr>
<tr><td>District Role</td><td colspan="4">Leader or Partner</td></tr>
<tr><td>Potential Agency Participation</td><td colspan="4">United States Bureau of Reclamation
City of San Jose
City of Milpitas
Creek Community Groups</td></tr>
<tr><td>Location</td><td colspan="4">Coyote Watershed, specific locations for implementation not determined</td></tr>
<tr><td>Description</td><td colspan="4">This project would identify, prioritize, and construct restoration features at appropriate locations within the Coyote Watershed for stream restoration. The location and type of channel features that are to be replaced have not been identified, but there are a number of types of channel feature restoration projects that can be considered for implementation, such as removing problem culverts, daylighting streams, etc.</td></tr>
<tr><td>Project Components</td><td colspan="4">a. Identify those sites for restoration
b. Identify opportunities for daylighting streams
c. Prioritize identified sites for restoration
d. Remove or replace problem culverts
e. Create low flow channels by adding baffles to concrete streambed inverts.
f. Increase pool-riffle habitat ratio and quality
g. Install channel features (re-align low flow channels, or add vortex rock weirs) to enhance sediment transport
h. Develop program to manage wood and other debris accumulation appropriately in creeks.</td></tr>
<tr><td rowspan="4">Budget/Schedule</td><td></td><td>Schedule</td><td>Duration</td><td>Budget</td></tr>
<tr><td>Site Identification/Planning</td><td>2001-2003</td><td>1-2 years</td><td>$1,600,000</td></tr>
<tr><td>Design</td><td>2002-2003</td><td>1 year</td><td>$1-4 mil</td></tr>
<tr><td>Construction</td><td>2003-2009 (est.)</td><td>3-6 years</td><td>$2-25 mil</td></tr>
<tr><td>Linkages</td><td colspan="4">Existing flood protection projects
Stream Maintenance Program
Habitat Protection, Enhancement, and Restoration Plan
Native Warmwater Fisheries Program
Salmonid Recovery Program
Water Quality Management Plan
Coyote Creek Sediment Control
Removal of Intrusive Recreational Features</td></tr>
<tr><td>Implementation</td><td colspan="4">Identifying appropriate funding sources for identified projects</td></tr>
</table>

Issues	Identifying level of mitigation required for stream channel impacts.
Notes	Construction within stream corridor typically limited to dry weather time period

Coyote Creek Sediment Control

<table>
<tr><td>Project Number</td><td colspan="4">FP2-C-01</td></tr>
<tr><td>Project Name</td><td colspan="4">Coyote Creek Sediment Control</td></tr>
<tr><td>Project Manager</td><td colspan="4">Watershed Manager</td></tr>
<tr><td>Primary Goal</td><td colspan="4">Flood Protection/Channel Maintenance: Increase ecological health and appearance of our natural and modified channels.</td></tr>
<tr><td>Primary Objective</td><td colspan="4">FP2_C: Manage sediment within stream channels</td></tr>
<tr><td>Ends Policies</td><td colspan="4">1.2 There is reduced potential for flood damages.
1.2.1 The cost of reducing the potential for flood damages is balanced with benefits (including possible environmental restoration and enhancement).</td></tr>
<tr><td>District Role</td><td colspan="4">Leader or Partner</td></tr>
<tr><td>Potential Agency Participation</td><td colspan="4">City of San Jose, City of Milpitas</td></tr>
<tr><td>Location</td><td colspan="4">Coyote Creek in the undeveloped areas outside the urban service areas</td></tr>
<tr><td>Description</td><td colspan="4">This project will identify major sources of sediment, create new development control measures and propose solutions for existing locations where sediment transport is an issue.</td></tr>
<tr><td>Project Components</td><td colspan="4">a. Conduct a stream sediment source and bedload transport analysis.
b. Investigate feasibility of controlling sediment sources (such as in-channel features)
c. Study feasibility of constructing regional debris capture basins to minimize sediment transport.
d. Identify and abate major sources of sediment loading into streams as required by the District's NPDES permit.
e. Identify causes of sediment transport.</td></tr>
<tr><td rowspan="4">Budget/Schedule</td><td></td><td>Schedule</td><td>Duration</td><td>Budget</td></tr>
<tr><td>Analysis/Planning</td><td>2003-2004</td><td>1 year</td><td>$300,000</td></tr>
<tr><td>Design</td><td>2004-2005</td><td>1 year</td><td>$500-900,000</td></tr>
<tr><td>Construction</td><td>2005-2006</td><td>1 year</td><td>$0.5-10 mil</td></tr>
<tr><td>Linkages</td><td colspan="4">Stream Maintenance Program
Stream and Wetland Revegetation Program
Stream Channel Feature Restoration
TMDL/Diazinon Management Program
Water Quality Management Plan</td></tr>
<tr><td>Implementation Issues</td><td colspan="4">TMDL coordination
Sediment removal only typically allowed during dry weather periods.
New Development Policies
Development of standard details and specifications for new development construction in waterways</td></tr>
<tr><td>Notes</td><td colspan="4">Sediment concentrations are regulated in other states, and TMDLs are currently being developed for California waterways. Coordination with local land use agencies to minimize sediment associated with new construction will be an integral component of any sediment</td></tr>
</table>

	control study/project.

Saltwater/Freshwater Stream Connection Project

Project Number	FP2-D-01
Project Name	Saltwater/Freshwater Stream Connection Project
Project Manager	Watershed Managers
Primary Goal	Flood Protection/Channel Maintenance: Increase ecological health and appearance of our natural and modified channels.
Primary Objective	FP2_D. Restore or redirect streamflows for in-stream beneficial uses
Ends Policies	1.2.2 There is a balance between the contributions of watersheds and streams in providing for public health and safety and in providing protection of natural resource benefits. 2.1.1.1 Opportunities to enhance or restore natural resource benefits of streams and watersheds are identified.
District Role	Leader or Supporter
Potential Agency Participation	Regional Water Quality Control Board National Marine Fisheries Service Bay Conservation Development Commission City of San Jose, Sunnyvale, Santa Clara
Location	To be determined within Baylands area
Description	Identify potential freshwater streams to connect within Baylands area during high-flow years to promote species diversity and genetic exchange.
Project Components	a. Identify necessary habitats to create areas for increased species diversity b. Determine required streamflows, biota required to meet habitat or species recovery objectives c. Identify locations of fresh and seawater, and the time periods at which their connection may be valuable d. Determine any required partnerships to implement a project

Budget/Schedule

	Schedule	Duration	Budget
Study/Planning	2002-2003	1-2 years	$200,000-$600,000
Design	2004	1 year	$0-1 mil
Construction	2005-2008	3 years	$0-10 mil

Linkages	Bayland Ecosystem Habitat Goals Watershed Management Initiative Habitat Protection, Enhancement and Restoration Plan SRA Cover Habitat Conservation and Augmentation Program Native Warmwater Fisheries Program Salmonid Recovery Program
Implementation Issues	Difficult to fill in portions of Bay Mitigation at other sites may be required Unknown impact on existing endangered species habitat
Notes	Other organizations may have more background to take lead

Trash Collection in Stream Channels

<table>
<tr><td>Project Number</td><td colspan="4">FP2-E-02</td></tr>
<tr><td>Project Name</td><td colspan="4">Trash Collection in Stream Channels</td></tr>
<tr><td>Project Manager</td><td colspan="4">Watershed Planning Unit</td></tr>
<tr><td>Primary Goal</td><td colspan="4">Flood Protection/Channel Maintenance: Increase ecological health and appearance of our natural and modified channels.</td></tr>
<tr><td>Primary Objective</td><td colspan="4">FP2_E. Manage the production and removal of trash</td></tr>
<tr><td>Ends Policies</td><td colspan="4">1.2.2 There is a balance between the contributions of watersheds and streams in providing for public health and safety and in providing protection of natural resource benefits.</td></tr>
<tr><td>District Role</td><td colspan="4">Leader</td></tr>
<tr><td>Potential Agency Participation</td><td colspan="4">City of San Jose
City of Milpitas
Local Adopt-a-Creek groups</td></tr>
<tr><td>Location</td><td colspan="4">Coyote Watershed</td></tr>
<tr><td>Description</td><td colspan="4">Increase removal of trash from channel areas in coordination with local jurisdictions, District staff and the general public. This maintenance can include participation in creek cleanup days, ongoing trash removal from bins, and cleanup of illegally dumped items.</td></tr>
<tr><td>Project Components</td><td colspan="4">a. Identify locations for additional trash collection facilities
b. Construct access roads, if necessary, for trash collection vehicles to remove trash
c. Organize additional cleanup days
d. Coordinate with local cities to determine how additional trash collection can be integrated into park and trail maintenance in areas near creek
e. Outline trash collection schedule
f. Hire additional staff to walk creeks to pick up trash not properly disposed of</td></tr>
<tr><td rowspan="3">Budget/Schedule</td><td></td><td>Schedule</td><td>Duration</td><td>Budget</td></tr>
<tr><td>Setup</td><td>2002</td><td>1 year</td><td>$100,000</td></tr>
<tr><td>Annual Maintenance</td><td>Ongoing</td><td>Ongoing</td><td>$150,000</td></tr>
<tr><td>Linkages</td><td colspan="4">District Public Information Office
Adopt-a-Creek
Stream and Wetland Revegetation Project
Community Watershed Stewardship Program
Public Access Sanitation Improvements
Stormwater Discharge Reduction</td></tr>
<tr><td>Implementation Issues</td><td colspan="4">Staffing/Workload for additional trash collection
Access to trash bins could be a problem if there are no existing maintenance road are constructed</td></tr>
<tr><td>Notes</td><td colspan="4">Staff and public participation in creek inspection and cleanup of illegally dumped items.</td></tr>
</table>

Stream and Wetland Revegetation Project

Project Number	EH-A-01
Project Name	Stream and Wetland Revegetation Project
Project Manager	Watershed Management
Primary Goal	Environment/Habitat: Protect, Enhance and Restore Habitat for Wildlife
Primary Objective	EH_A. Restore and increase riparian, aquatic and other wildlife habitats
Ends Policies	2.1 Watersheds, streams, and the natural resources therein are protected and, when appropriate, enhanced or restored. 2.1.1 Healthy creek and bay ecosystems are protected, enhanced, or restored as determined appropriate by the Board. 2.1.1.2 Mitigation, enhancements, or restorations are implemented when determined appropriate by the Board.
District Role	Leader or Partner
Potential Agency Participation	California Department of Fish and Game California Native Plant Society
Location	Percolation pond land, Norwood Creek, Lake Cunningham Park, Flint Debris Basin, and other areas to be identified.
Description	Revegetate riparian, wetland, and sensitive habitat areas, clean up trash, and create wetland areas at appropriate sites on Coyote Creek from Anderson Dam to the Bay. Sites preliminarily identified include percolation pond land, Norwood Creek, Lake Cunningham, Flint Debris basin and elsewhere.
Project Components	a. Develop the criteria and process for selecting areas that would be candidates for revegetation or wetlands creations. For riparian or habitat revegetation: b. Survey stream areas to determine which areas should be revegetated. Revegetation should be part of maintaining stream temperatures for fisheries areas and controlling erosion. c. Select the appropriate native vegetation to be replanted, based on the area and purpose for revegetation. d. Clean and prepare the area for revegetation, such as trash removal or any special provisions the vegetation will require in order to become established (such as watering, nutrients, etc.). e. Plant areas for revegetation. Planting should occur at a time when plants will have the best chance of becoming established. f. Monitor revegetation efforts to determine if plants are becoming established and to troubleshoot any potential problems, such as transplanting stresses, insects, watering problems, etc. For wetlands creation: g. Survey stream areas to determine where wetlands would naturally occur in the stream

	system. h. Determine the appropriate size and depth of the wetland, based on wetland benefits required and the location selected. i. Clean and prepare the area for wetlands. This could include soil removal and/or widening the stream channel in order to provide for the required size and depth. j. Select the appropriate native wetland vegetation for replanting, based on water depth and required benefits. k. Determine if wetland plants will require specific water levels or have other special needs during transplanting. Prepare site accordingly, such as to have wetland flooded with shallow water, based on the needs of the plants. l. Plant wetland vegetation. Planting should occur at a time when plants will have the best chance of becoming established. m. Monitor wetlands to determine if plants are becoming established and to troubleshoot any potential problems, such as transplanting stresses, insects, inappropriate water levels, etc.			
Budget/Schedule		Schedule	Duration	Budget
	Study/Planning	2002-2004	1-2 years	$700-1.0 mil
	Design	2005	1 year	$500-$3 mil
	Construction	2005-2007	1-3 years	$1-10 mil
Linkages	Coyote Watershed Creek Restoration and Inventory Study Habitat Protection, Enhancement, and Restoration Plan Invasive, Non-Native and Destructive Species Control Program SRA Cover Habitat Conservation and Augmentation Program Wetland Vegetation Recovery Study			
Implementation Issues	Land acquisition Setting goals for riparian and wetlands restoration			
Notes	Plant nurseries that provide riparian vegetation and wetland vegetation should be able to provide information regarding plant needs, potential problems, ideal transplanting times, and general information for plants becoming successfully established.			

Habitat Protection, Enhancement and Restoration Plan

<table>
<tr><td>Project Number</td><td colspan="4">EH-A-02</td></tr>
<tr><td>Project Name</td><td colspan="4">Habitat Protection, Enhancement and Restoration Plan</td></tr>
<tr><td>Project Manager</td><td colspan="4">Watershed Management</td></tr>
<tr><td>Primary Goal</td><td colspan="4">Environment/Habitat: Protect, enhance and Restore Habitat for Wildlife</td></tr>
<tr><td>Primary Objective</td><td colspan="4">EH_A. Restore and increase riparian, aquatic and other wildlife habitats</td></tr>
<tr><td>Ends Policies</td><td colspan="4">2.1 Watersheds, streams, and the natural resources therein are protected and, when appropriate, enhanced or restored.
2.1.1 Healthy creek and bay ecosystems are protected, enhanced, or restored as determined appropriate by the Board.
2.1.1.1 Opportunities to enhance or restore natural resource benefits of streams and watersheds are identified.</td></tr>
<tr><td>District Role</td><td colspan="4">Leader or Partner</td></tr>
<tr><td>Potential Agency Participation</td><td colspan="4">California Department of Fish and Game
California Native Plant Society</td></tr>
<tr><td>Location</td><td colspan="4">Coyote Watershed</td></tr>
<tr><td>Description</td><td colspan="4">Develop an implementation plan that identifies and enables construction for restoration and enhancement of 100 acres of tidal and/or riparian habitat (an equivalent of 6.6 acres of tidal or 7.2 acres of riparian habitat annually) that can be restored or constructed.</td></tr>
<tr><td>Project Components</td><td colspan="4">a. Identify and characterize existing and planned mitigation, protection and restoration areas
b. Develop criteria and process for evaluating potential restoration and enhancement sites
c. Identify locations with opportunities to mitigate, protect and restore habitat. Coordinate with Coyote Watershed Creek Restoration and Inventory Study.
d. Evaluate specific restoration and enhancement sites.
e. Conduct special surveys on additional restoration and enhancement sites/activities.
f. Develop an interactive GIS and install on District website.</td></tr>
<tr><td rowspan="3">Budget/Schedule</td><td></td><td>Schedule</td><td>Duration</td><td>Budget</td></tr>
<tr><td>Study/Planning</td><td>2003-2005</td><td>1-2 years</td><td>$416,000</td></tr>
<tr><td>Plan Implementation</td><td>2005-2006</td><td>1-2 years</td><td>$500K-$5 mil</td></tr>
<tr><td>Linkages</td><td colspan="4">Coyote Watershed Creek Restoration and Inventory Study
Stream and Wetland Revegetation Project
Habitat Conservation Plan (note that this project is related directly to CDFG permit requirements)
Invasive, Non-Native and Destructive Species Control Program
SRA Cover Habitat Conservation and Augmentation Program
Native Warmwater Fisheries Program
Salmonid Recovery Program
Water Quality Management Plan
Channel Trash Maintenance Program
Stormwater Discharge Reduction Program
Open Spaces, Trails, and Parks Master Planning
Removal of Intrusive Recreational Features</td></tr>
<tr><td>Implementation Issues</td><td colspan="4">Coordinate with Habitat Conservation Plan
Funding for restoration project</td></tr>
</table>

Notes	Note that this project is different than the Habitat Conservation Plan project. This project is not directly driven by a regulatory requirement. The Habitat Conservation Plan is driven by the Endangered Species Act permit requirements.

Palassou Ridge Restoration

<table>
<tr><td>Project Number</td><td colspan="4">EH-A-03</td></tr>
<tr><td>Project Name</td><td colspan="4">Palassou Ridge Restoration</td></tr>
<tr><td>Project Manager</td><td colspan="4">Watershed Management</td></tr>
<tr><td>Primary Goal</td><td colspan="4">Environment/Habitat: Protect, enhance and Restore Habitat for Wildlife</td></tr>
<tr><td>Primary Objective</td><td colspan="4">EH_A. Restore and increase riparian, aquatic and other wildlife habitats</td></tr>
<tr><td>Ends Policies</td><td colspan="4">2.1 Watersheds, streams, and the natural resources therein are protected and, when appropriate, enhanced or restored.
2.1.1.1 Opportunities to enhance or restore natural resource benefits of streams and watersheds are identified.</td></tr>
<tr><td>District Role</td><td colspan="4">Leader or Partner</td></tr>
<tr><td>Potential Agency Participation</td><td colspan="4">Santa Clara County Open Space Authority (SCCOSA)</td></tr>
<tr><td>Location</td><td colspan="4">Palassou Ridge Reserve (2010 acres)</td></tr>
<tr><td>Description</td><td colspan="4">Cooperative Palassou Ridge project with SCCOSA to develop resource management plans and experimentally restore wetlands and species at risk on-site.</td></tr>
<tr><td>Project Components</td><td colspan="4">a. Identify and characterize existing and planned protection and restoration areas
b. Develop criteria and process for evaluating potential restoration and enhancement sites
c. Identify locations with opportunities to mitigate, protect and restore habitat. Coordinate with Coyote Watershed Creek Restoration and Inventory Study.
d. Evaluate specific restoration and enhancement sites.
e. Conduct special surveys on additional restoration and enhancement sites/activities.
f. Develop an interactive GIS and install on District website.</td></tr>
<tr><td rowspan="3">Budget/Schedule</td><td></td><td>Schedule</td><td>Duration</td><td>Budget</td></tr>
<tr><td>Planning</td><td>2002-2003</td><td>1-2 years</td><td>$117,000 (2001)</td></tr>
<tr><td>Implementation</td><td>2004-ongoing</td><td>1-3 years</td><td>$0-1 million</td></tr>
<tr><td>Linkages</td><td colspan="4">Coyote Watershed Creek Restoration and Inventory Study
Stream and Wetland Revegetation Project
Habitat Protection, Enhancement, and Restoration Plan
Habitat Conservation Plan
Invasive, Non-Native and Destructive Species Control Program
SRA Cover Habitat Conservation and Augmentation Program
Native Warmwater Fisheries Program
Salmonid Recovery Program
Water Quality Management Plan
Channel Trash Maintenance Program
Stormwater Discharge Reduction Program
Open Spaces, Trails, and Parks Master Planning
Removal of Intrusive Recreational Features</td></tr>
</table>

Implementation Issues	
Notes	Measure B coordination

Invasive, Non-Native and Destructive Species Control Program

Project Number	EH-A-04
Project Name	Invasive, Non-Native and Destructive Species Control Program
Project Manager	Watershed Management
Primary Goal	Environment/Habitat: Protect, enhance and Restore Habitat for Wildlife
Primary Objective	EH_A. Restore and increase riparian, aquatic and other wildlife habitats
Ends Policies	2 There is an enhanced quality of life in Santa Clara County 2.1 Watersheds, streams, and the natural resources therein are protected and when appropriate enhanced or restored. 2.1.1.2 Mitigation, enhancements, or restorations are implemented when determined appropriate by the Board.
District Role	Partner or Leader
Potential Agency Participation	Local creek groups California Native Plant Society California Department of Fish and Game National Marine Fisheries Service US Department of Fish and Wildlife Service Local vector control districts
Location	Coyote Watershed
Description	Develop and implement a program that identifies, locates, controls and/or eradicates invasive, non-native, and destructive species in aquatic, riparian, and upland habitats.
Project Components	a. Map location of major invasive riparian, upland, and aquatic species. Coordinate with Coyote Watershed Creek Restoration and Inventory Study. b. Develop eradication or control plans, such as for the Giant Reed (*Arrundo donax),* a non-native invasive species plant that uses large amounts of water, which results in the drying up of nearby water sources c. Educate public regarding invasive, exotic plant species. Coordinate with Community Watershed Education Program and Non-Native and Exotic Species Education. d. Support and extend the ongoing volunteer exotic plant removal program. e. Coordinate with land use agencies to develop an approved plant list. Ensure that the plant list does not include non-native or invasive species. f. Implement tracking system for protecting riparian habitat from feral cats, feral pigs, invasive plants, dogs, trash dumping, and grazing. Coordinate with channel maintenance activities. g. Retire Standish Dam and redesign it as a mitten crab trapping station and implement appropriate steelhead mitigation measures (coordinate with Salmonid Recovery Program).

Budget/Schedule		Schedule	Duration	Budget
	Study/Planning	2003-2006	1-3 years	$750,000
	Implementation	2006-ongoing	TBD	$1-10 million

Linkages	Coyote Watershed Creek Restoration and Inventory Study Community Watershed Education Program Non-Native and Exotic Species Education Channel Trash Maintenance Program Salmonid Recovery Program Native Warmwater Fisheries Program Habitat Protection, Enhancement, and Restoration Plan Habitat Conservation Plan Stream and Wetland Revegetation Project SRA Cover Habitat Conservation and Augmentation Program
Implementation Issues	Some invasive/non-native species may have beneficial uses. It needs to be determined who will enforce invasive species control measures.
Notes	Other jurisdictions have native species promotion plans, including Oregon

Coyote Watershed Creek Restoration and Inventory Study

Project Number	EH-B-01
Project Name	Coyote Watershed Creek Restoration and Inventory Study
Project Manager	Countywide Watershed Programs Unit
Primary Goal	Environment/Habitat: Protect, enhance and Restore Habitat for Wildlife
Primary Objective	EH_B. Preserve and enhance natural, self-sustaining habitats wherever possible
Ends Policies	2.1 Watersheds, streams, and the natural resources therein are protected and when appropriate enhanced or restored. 2.1.1 Healthy creek and bay ecosystems are protected, enhanced, or restored as determined appropriate by the Board. 2.1.1.1 Opportunities to enhance or restore natural resource benefits of streams and watershed are identified.
District Role	Support/Partner/Possible Leader
Potential Agency Participation	California Department of Fish and Game National Marine Fisheries Service US Department of Fish and Wildlife Service California Native Plant Society City of San Jose
Location	Coyote Watershed
Description	Prepare an evaluation of restoration potential for all Coyote Watershed creeks (upland, aquatic and riparian resources), updating existing riparian and aquatic conditions and identify priority preservation areas.
Project Components	a. Develop a countywide inventory of riparian corridor resources (stream types, aquatic resources, plants, wildlife, etc.) b. Conduct an aerial survey of entire District service area (including uplands) c. Identify vernal pool and seasonal wetland restoration areas adjacent to undeveloped upland areas. d. Identify suitable wildlife/aquatic habitat upstream of Coyote and Anderson Reservoirs. e. Develop comprehensive GIS system based on countywide inventory. f. Identify projects that would mitigate, enhance, or restore riparian corridors.

Budget/Schedule		Schedule	Duration	Budget
	Planning	2002-2004	1-2 years	$700-800,000
	Design	2005-2006	2 years	$1,000,000
	Construction	2007-2010	1-5 years	$3-25 million

Linkages	Salmonid Recovery Program Native Warmwater Fisheries Program Habitat Protection, Enhancement, and Restoration Plan Habitat Conservation Plan Stream and Wetland Revegetation Project SRA Cover Habitat Conservation and Augmentation Program Invasive, Non-Native and Destructive Species Control Program Open Spaces, Trails, and Parks Master Planning Identification of Beneficial Uses in Coyote Watershed/Basin Plan Update Water Quality Management Plan TMDL/Diazinon Management Program Coyote Creek Sediment Control Flood Protection Facility Projects Stream Resources Inventory and Management Program
Implementation Issues	Coordination with Measure B flood control project
Notes	Coyote Creek is listed as an impaired water body

SRA Cover Habitat Conservation and Augmentation Program

<table>
<tr><td>Project Number</td><td colspan="4">EH-B-02</td></tr>
<tr><td>Project Name</td><td colspan="4">SRA Cover Habitat Conservation and Augmentation Program</td></tr>
<tr><td>Project Manager</td><td colspan="4">Watershed Management</td></tr>
<tr><td>Primary Goal</td><td colspan="4">Environment/Habitat: Protect, Enhance and Restore Habitat for Wildlife</td></tr>
<tr><td>Primary Objective</td><td colspan="4">EH_B. Preserve and enhance natural, self-sustaining habitats wherever possible</td></tr>
<tr><td>Ends Policies</td><td colspan="4">2.1 Watersheds, streams, and the natural resources therein are protected and when appropriate enhanced or restored.</td></tr>
<tr><td>District Role</td><td colspan="4">Leader</td></tr>
<tr><td>Potential Agency Participation</td><td colspan="4">California Department of Fish and Game
National Marine Fisheries Service
US Department of Fish and Wildlife Service</td></tr>
<tr><td>Location</td><td colspan="4">Lower Berryessa Creek, Upper Penitencia Creek, Coyote Creek</td></tr>
<tr><td>Description</td><td colspan="4">Conduct SRA cover habitat conservation and augmentation program on Lower Berryessa Creek and Coyote Creek (entire length) and Upper Penitencia Creek above Alum Rock Park. This will help identify suitable mitigation measures for the planned future flood control projects along these creeks.</td></tr>
<tr><td>Project Components</td><td colspan="4">a. Identify and characterize existing habitat areas
b. Develop criteria and process for evaluating potential restoration, enhancement, and augmentation sites
c. Identify locations with opportunities to mitigate, protect and restore habitat. Coordinate with Coyote Watershed Creek Restoration and Inventory Study.
d. Evaluate specific conservation, restoration, and enhancement sites.
e. Conduct special surveys on additional restoration and enhancement sites/activities.
f. Develop an interactive GIS and install on District website.</td></tr>
<tr><td rowspan="4">Budget/Schedule</td><td></td><td>Schedule</td><td>Duration</td><td>Budget</td></tr>
<tr><td>Study/Planning</td><td>2003-2005</td><td>1-2 years</td><td>$400-600,000</td></tr>
<tr><td>Design</td><td>2005-2006</td><td>1-2 years</td><td>$500K-$3 million</td></tr>
<tr><td>Implementation</td><td>2006-2009</td><td>4 years</td><td>$3-20 million</td></tr>
<tr><td>Linkages</td><td colspan="4">Coyote Watershed Creek Restoration and Inventory Study
Salmonid Recovery Program
Native Warmwater Fisheries Program
Habitat Protection, Enhancement, and Restoration Plan
Habitat Conservation Plan
Stream and Wetland Revegetation Project
Invasive, Non-Native and Destructive Species Control Program
Water Quality Management Plan
TMDL/Diazinon Management Program
Coyote Creek Sediment Control
Flood Protection Facility Projects</td></tr>
<tr><td>Implementation Issues</td><td colspan="4">Ensuring that SRA restoration does not cause short-term impacts to smolts in cold-water habitats</td></tr>
<tr><td>Notes</td><td colspan="4"></td></tr>
</table>

Habitat Conservation Plan

<table>
<tr><td>Project Number</td><td colspan="4">EH-B-03</td></tr>
<tr><td>Project Name</td><td colspan="4">Habitat Conservation Plan</td></tr>
<tr><td>Project Manager</td><td colspan="4">Countywide Watershed Programs Unit</td></tr>
<tr><td>Primary Goal</td><td colspan="4">Environment/Habitat: Protect, enhance and Restore Habitat for Wildlife</td></tr>
<tr><td>Primary Obj.</td><td colspan="4">EH_B. Preserve and enhance natural, self-sustaining habitats wherever possible</td></tr>
<tr><td>Ends Policies</td><td colspan="4">2.1 Watersheds, streams, and the natural resources therein are protected and, when appropriate, enhanced or restored.
2.1.1.2 Mitigation, enhancements, or restorations are implemented when determined appropriate by the Board.</td></tr>
<tr><td>District Role</td><td colspan="4">Leader or Partner</td></tr>
<tr><td>Potential Agency Participation</td><td colspan="4">California Department of Fish and Game
National Marine Fisheries Service
US Department of Fish and Wildlife Service</td></tr>
<tr><td>Location</td><td colspan="4">Coyote Watershed</td></tr>
<tr><td>Description</td><td colspan="4">Develop and implement a Habitat Conservation Plan to address District polices regarding Threatened and Endangered species.</td></tr>
<tr><td>Project Components</td><td colspan="4">a. Identify and characterize existing habitat areas
b. Develop criteria and process for evaluating potential protection, restoration, and/or enhancement sites.
c. Identify locations with opportunities to mitigate, protect and restore habitat. Coordinate with Coyote Watershed Creek Restoration and Inventory Study.
d. Evaluate specific conservation, restoration, and enhancement sites.
e. Conduct special surveys on additional protection, restoration and enhancement sites/activities.
f. Develop an interactive GIS and install on District website.
g. Provide program management.</td></tr>
<tr><td rowspan="2">Budget/Schedule</td><td></td><td>Schedule</td><td>Duration</td><td>Budget</td></tr>
<tr><td>Planning</td><td>Ongoing</td><td>1-2 years</td><td>$30,000 (2001)</td></tr>
<tr><td>Linkages</td><td colspan="4">Coyote Watershed Creek Restoration and Inventory Study
Salmonid Recovery Program
Native Warmwater Fisheries Program
Habitat Protection, Enhancement, and Restoration Plan
Stream and Wetland Revegetation Project
SRA Cover Habitat Conservation and Augmentation Program
Invasive, Non-Native and Destructive Species Control Program
Open Spaces, Trails, and Parks Master Planning
Identification of Beneficial Uses in Coyote Watershed/Basin Plan Update
Water Quality Management Plan
Fisheries and Aquatic Habitat Collaboration Effort
TMDL/Diazinon Management Program
Flood Protection Facility Projects</td></tr>
<tr><td>Implementation Issues</td><td colspan="4"></td></tr>
<tr><td>Notes</td><td colspan="4">The plan developed as a result of this project would meet the requirements of the Federal Endangered Species Act, and streamline District permit processes by eliminating individual</td></tr>
</table>

	“take” permit applications. There are approximately 50 species of concern within the District service area. Significant coordination with stakeholders and regulators is anticipated.

Fish and Frog Screens

Project Number	EH-C-01
Project Name	Fish and Frog Screens
Project Manager	Ecological Services Unit
Primary Goal	Environment/Habitat: Protect, enhance and Restore Habitat for Wildlife
Primary Objective	EH_C. Balance the preservation of native warmwater fisheries with the restoration of endangered/coldwater fisheries
Ends Policies	2.1 Watersheds, streams, and the natural resources therein are protected and, when appropriate, enhanced or restored. 2.1.1.2 Mitigation, enhancements, or restorations are implemented when determined appropriate by the Board.
District Role	Partner
Potential Agency Participation	City of San Jose California Department of Fish and Game National Marine Fisheries Service US Department of Fish and Wildlife Service
Location	Coyote Watershed
Description	Install fish and frog screens where needed and replace where appropriate. This project will identify what streams are suitable for which species, and identify locations where screens may be required.
Project Components	a. Identify and characterize existing habitat areas, and verify presence of target fish species or red legged frogs. b. Develop criteria and process for evaluating potential areas that will require fish or frog screens c. Identify locations where screen installation would be appropriate d. Prepare site for screens (such as clearing trash) e. Install screens f. Monitor screens to ensure screens are effective and working properly

Budget/Schedule		Schedule	Duration	Budget
	Study/Planning	2002-2004	1-2 years	$350,000
	Design	2004-2006	1-2 years	$500K-$3 million
	Construction/Installation	2006-2007	2-3 years	$1-10 million

Linkages	Fish Passage Improvement Project Native Warmwater Fisheries Program Salmonid Recovery Program Habitat Protection, Enhancement, and Restoration Plan Habitat Conservation Plan Fisheries and Aquatic Habitat Collaborative Effort
Implementation Issues	Want to ensure that fish losses are minimized

Notes	Coordinate with Fisheries and Aquatic Habitat Collaborative Effort

Native Warmwater Fisheries Program

Project Number	EH-C-02
Project Name	Native Warmwater Fisheries Program
Project Manager	Ecological Services Unit
Primary Goal	Environment/Habitat: Protect, Enhance and Restore Habitat for Wildlife
Primary Objective	EH_C. Balance the preservation of native warmwater fisheries with the restoration of endangered/coldwater fisheries
Ends Policies	2.1 Watersheds, streams, and the natural resources therein are protected and when appropriate enhanced or restored.
District Role	Program and project management
Potential Agency Participation	California Department of Fish and Game National Marine Fisheries Service US Department of Fish and Wildlife Service
Location	Coyote Watershed
Description	Support native fish assemblage in Coyote Watershed and evaluate viability of population enhancement (such as effects of exotic game fish on native fish populations, etc.)
Project Components	a. Identify and characterize existing habitat areas, and verify presence of target fish species. b. Evaluate viability of population c. Develop criteria and process for evaluating potential areas that will require enhancement or restoration d. Identify locations for enhancement or restoration. Coordinate with Coyote Watershed Creek Restoration and Inventory Study. Improvements, enhancements, or restoration efforts include: e. Improve fish passage where appropriate f. Install frog/fish screens where appropriate g. Protect fish from trash accumulation in creeks, predators, and invasive, non-native or destructive species. h. Provide woody debris and pool habitat where appropriate.

Budget/Schedule		Schedule	Duration	Budget
	Study/Planning	2003-2005	1-2 years	$450,000
	Design	2005-2006	1 year	$500K-$2 million
	Construction/Implementation	2006-2008	1-3 years	$2-10 million

Linkages	Coyote Watershed Creek Restoration and Inventory Study Fish Passage Improvement Project Salmonid Recovery Program Fish and Frog Screens Habitat Protection, Enhancement, and Restoration Plan Habitat Conservation Plan Saltwater/Freshwater Stream Connection Program Stream Channel Feature Restoration Water Quality Management Plan Conjunctive Use Plan Fisheries and Aquatic Habitat Collaborative Effort
Implementation Issues	
Notes	

Salmonid Recovery Program

Project Number	EH-C-03			
Project Name	Salmonid Recovery Program			
Project Manager	Ecological Services Unit			
Primary Goal	Environment/Habitat: Protect, Enhance and Restore Habitat for Wildlife			
Primary Objective	EH_C. Balance the preservation of native warmwater fisheries with the restoration of endangered/coldwater fisheries			
Ends Policies	2.1 Watersheds, streams, and the natural resources therein are protected and when appropriate enhanced or restored. 2.1.1.2 Mitigation, enhancements, or restorations are implemented when determined appropriate by the Board.			
District Role	Partner or Supporter			
Potential Agency Participation	California Department of Fish and Game National Marine Fisheries Service US Fish and Wildlife Service			
Location	Coyote Watershed			
Description	Identify short-term/long-term salmonid recovery program, such as habitat restoration, water temperature maintenance, and removing migration obstructions in creek.			
Project Components	a. Determine steelhead/salmon habitat requirements, such as seasonal flows and temperatures, in areas where District regulates flow, and develop a plan to attain these requirements. Coordinate with FAHCE. b. Identify/improve habitat by providing woody debris for juvenile fish shelter, increasing riparian cover, etc. c. Protect and enhance spawning areas such as increasing pool-riffle ratio of streams, adding spawning gravel, etc. d. Allow/deny fish passage as appropriate e. Prevent fish losses by controlling access, installing gates or drop structures, controlling predators, etc. f. Identify operational solutions to protect coldwater spawning areas from predatory warm water fish (e.g. drybacks, mechanical barriers, physical barriers) and facilitate out-migration of smelt. Work with CDFG, NMFS) and USFWS.			
Budget/Schedule		Schedule	Duration	Budget
	Study/Planning	2002-2004	1-2 years	$550,000
	Design	2004-2005	1-2 years	$0-$1 mil
	Construction/Implementation	2005-2006	1-2 years	$0-$5 mil
Linkages	Fisheries and Aquatic Habitat Collaboration Effort Coyote Creek Restoration and Inventory Study Habitat Protection, Enhancement, and Restoration Plan Habitat Conservation Plan Fish Passage Improvement project Native Warmwater Fisheries Program Fish and Frog Screens Saltwater/Freshwater Stream Connection Program Stream Channel Feature Restoration Water Quality Management Plan Conjunctive Use Plan			

Imp. Issues	
Notes	

Fish Passage Improvements

Project Number	EH-D-01
Project Name	Fish Passage Improvements
Project Manager	Ecological Services Unit
Primary Goal	Environment/Habitat: Protect, Enhance and Restore Habitat for Wildlife
Primary Objective	EH_D. Provide barrier-free physical passage for migratory aquatic and wildlife species
Ends Policies	2.1 Watersheds, streams, and the natural resources therein are protected and when appropriate enhanced or restored. 2.1.1.2 Mitigation, enhancements, or restorations are implemented when determined appropriate by the Board.
District Role	Leader or Partner
Potential Agency Participation	California Department of Fish and Game National Marine Fisheries Service US Fish and Wildlife Service
Location	Fisher Creek confluence with Coyote Creek Quimby Creek at Aborn Road Coyote Creek Upper Penitencia Creek, multiple locations
Description	Identify reaches were potential fish habitat exists, and develop and implement an environmental strategy for fish passage improvements with prioritized projects.
Project Components	a. Identify and characterize existing habitat areas, and verify presence of target fish species. b. Evaluate viability of population c. Develop criteria and process for evaluating potential areas that will require enhancement or restoration to provide for fish passage d. Identify locations for passage improvements. Coordinate with Coyote Watershed Creek Restoration and Inventory Study. e. Prepare fish passage improvement implementation plan. Fish passage improvements include: f. Removal of barriers to fish passage where appropriate. g. Identify areas where known fish losses have occurred, and design solutions to install gates or drop structures to minimize passage into these areas

Budget/Schedule		Schedule	Duration	Budget
	Study/Planning	2002-2004	1-2 years	$600-700,000
	Design	2004-2005	1-2 years	$0.5-5 mil
	Construction	2005-2007	1-3 years	$2-10 mil

Linkages	Coyote Watershed Creek Restoration and Inventory Study Fisheries and Aquatic Habitat Collaboration Effort Habitat Protection, Enhancement, and Restoration Plan Habitat Conservation Plan Native Warmwater Fisheries Program Salmonid Recovery Plan Fish and Frog Screens Saltwater/Freshwater Stream Connection Program Stream Channel Feature Restoration
Implementation Issues	Identification of habitat in streams that are appropriate to the greatest number of species
Notes	

Biological Corridor / Habitat Area Land Acquisition

Project Number	EH-F-01
Project Name	Biological Corridor/Habitat Area Land Acquisition
Project Manager	Watershed Planning Unit/Ecological Services Unit
Primary Goal	Environment/Habitat: Protect, Enhance and Restore Habitat for Wildlife
Primary Objective	EH_F. Protect, restore & increase buffer for lowland areas
Ends Policies	2.1.1.1 Opportunities to enhance or restore natural resource benefits of streams and watersheds are identified.
District Role	Partner
Potential Agency Participation	Santa Clara County Open Space Authority (SCCOSA) City of San Jose
Location	Penitencia, King Rd to Coyote confluence Upper Penitencia between Alum Rock and Penitencia Creek Park Yerba Buena Creek, Evergreen area
Description	Acquire lands for biological corridors/riparian habitat areas. Identify undeveloped parcels within or adjacent to riparian corridor area for potential purchase or easement acquisition.
Project Components	a. Meet with SCCOSA and City of San Jose to determine candidate areas for acquisition, partnerships, and responsibilities. b. Locate undeveloped parcels within or adjacent to riparian corridor area, riparian buffer zones, and areas for biological corridors. c. Coordinate with Coyote Watershed Creek Restoration and Inventory Study d. Compile and finalize list of candidate projects/land acquisitions. e. Determine which of these candidate projects/land acquisitions is reasonable and appropriate to pursue, such as it meeting budget and environmental benefit requirements. Environmental requirements include connecting bayland/riparian/upland habitats to maximize sustainability. f. Acquire appropriate land. g. Implement action items (such as land purchase, rezoning as permanent open space or purchase of development easements in existing open space areas).

Budget / Schedule		Schedule	Duration	Budget
	Study/Planning	2002-2003	1-2 years	$150-200,000
	Land Acquisition	2003-2005	3 years	$1,000,000/yr
	Land Maintenance	Ongoing	Ongoing	$200,000/yr

Linkages	Coyote Watershed Creek Restoration and Inventory Study Open Spaces, Trails, and Parks Master Planning Property Buy-Out Program Open Space Acquisition Habitat Protection, Enhancement, and Restoration Plan Habitat Conservation Plan
Implementation Issues	Identification of suitable land and the maintenance of this land.

Notes	This land acquisition program would not be limited to open space preservation, but also habitat creation, channel widening and restoration.

Salt Pond Reoperation

<table>
<tr><td>Project Number</td><td colspan="4">EH-F-02</td></tr>
<tr><td>Project Name</td><td colspan="4">Salt Pond Reoperation</td></tr>
<tr><td>Project Manager</td><td colspan="4">Ecological Services Unit</td></tr>
<tr><td>Primary Goal</td><td colspan="4">Environment/Habitat: Protect, Enhance and Restore Habitat for Wildlife</td></tr>
<tr><td>Primary Objective</td><td colspan="4">EH_F. Protect, restore & increase buffer for lowland areas</td></tr>
<tr><td>Ends Policies</td><td colspan="4">2.1.1.2 Mitigation, enhancements, or restorations are implemented when determined appropriate by the Board.</td></tr>
<tr><td>District Role</td><td colspan="4">Leader/Partner/Supporter</td></tr>
<tr><td>Potential Agency Participation</td><td colspan="4">California Department of Fish and Game
Bay Conservation and Development Commission</td></tr>
<tr><td>Location</td><td colspan="4">Pond A4 purchased by District from Cargill</td></tr>
<tr><td>Description</td><td colspan="4">Develop a “Pond A4 Tidal Wetlands ‘Mitigation Program’” for restoring the 321-acre site to a self-sustaining, full functioning tidal wetland ecosystem. These components will require restoration of salt ponds to some of the following uses: waterfowl habitat, shorebird habitat, and wetlands.</td></tr>
<tr><td>Project Components</td><td colspan="4">a. Identify wetland requirements regarding areas of the wetland that will be freshwater, brackish water, and saltwater.
b. Integrate and coordinate with regional bay lands planning activities, particularly the proposed large scale restoration of the south by salt ponds.
c. Determine what types of habitat the wetland will provide, such as islands for bird rookeries, pickle-weed areas for salt marsh harvest mouse, etc.
d. Identify tidal wetlands restoration 9or enhancement opportunities for District Board consideration.
e. Design wetland flows based on required water levels and type of water (fresh, brackish or salt) required in the wetland.
f. Construct any additional features, such as sluice gates, berms, or islands as required.
g. Revegetate wetland as required (coordinate with Stream and Wetland Revegetation Project)..
h. Monitor wetland to ensure that environmental goals are being achieved once operation begins.</td></tr>
<tr><td rowspan="5">Budget/Schedule</td><td></td><td>Schedule</td><td>Duration</td><td>Budget</td></tr>
<tr><td>Study/Planning</td><td>2002-2004</td><td>1-2 years</td><td>$250,000</td></tr>
<tr><td>Design</td><td>2003-2004</td><td>1 year</td><td>$400,000</td></tr>
<tr><td>Construction</td><td>2004-2006</td><td>1-3 years</td><td>$1-10 million</td></tr>
<tr><td>Monitoring</td><td>2006-onwards</td><td>Ongoing</td><td>$200,000/yr</td></tr>
<tr><td>Linkages</td><td colspan="4">Stream and Wetland Revegetation Project
Habitat Protection, Enhancement, and Restoration Plan
Habitat Conservation Plan
Wetland Mitigation Project</td></tr>
<tr><td>Implementation Issues</td><td colspan="4">Can potentially require additional fresh water supplies that must be delivered to pond
Determine how much of site to restore (number of acres)</td></tr>
<tr><td>Notes</td><td colspan="4">Coordination with SF Airport salt pond project?</td></tr>
</table>

Wetlands Mitigation Project

<table>
<tr><td>Project Number</td><td colspan="4">EH-G-01</td></tr>
<tr><td>Project Name</td><td colspan="4">Wetlands Mitigation Project</td></tr>
<tr><td>Project Manager</td><td colspan="4">Ecological Services Unit</td></tr>
<tr><td>Primary Goal</td><td colspan="4">Environment/Habitat: Protect, Enhance and Restore Habitat for Wildlife</td></tr>
<tr><td>Primary Objective</td><td colspan="4">EH_G. Protect existing and create new wetlands for multiple uses</td></tr>
<tr><td>Ends Policies</td><td colspan="4">2.1 Watersheds, streams, and the natural resources therein are protected and when appropriate enhanced or restored.
2.1.1.1 Opportunities to enhance or restore natural resource benefits of streams and watersheds are identified.
2.1.1.2 Mitigation, enhancements, or restorations are implemented when determined appropriate by the Board.</td></tr>
<tr><td>District Role</td><td colspan="4">Leader</td></tr>
<tr><td>Potential Agency Participation</td><td colspan="4">California Department of Fish and Game
US Army Corps of Engineers</td></tr>
<tr><td>Location</td><td colspan="4">Coyote Watershed</td></tr>
<tr><td>Description</td><td colspan="4">Evaluate purchasing wetlands, in conjunction with others, to provide as mitigation measures for District projects.</td></tr>
<tr><td>Project Components</td><td colspan="4">a. Survey stream areas to determine where wetlands would naturally occur in the stream system.
b. Develop criteria and process for evaluating potential wetland restoration, and mitigation sites.
c. Evaluate specific wetland restoration and mitigation sites for purchase.
d. Purchase/Acquire wetlands.
e. Revegetate wetlands if required/appropriate</td></tr>
<tr><td rowspan="4">Budget/Schedule</td><td></td><td>Schedule</td><td>Duration</td><td>Budget</td></tr>
<tr><td>Study/Planning</td><td>Underway</td><td>1-3 years</td><td>$1.2 mil</td></tr>
<tr><td>Design</td><td>2003-2004</td><td>1 year</td><td>$500,000</td></tr>
<tr><td>Construction</td><td>2004-2006</td><td>1-3 years</td><td>$500K-$10 million</td></tr>
<tr><td>Linkages</td><td colspan="4">Stream and Wetland Revegetation Project
Coyote Watershed Creek Restoration and Inventory Study
Open Spaces, Trails, and Parks Master Planning
Property Buy-Out Program
Open Space Acquisition
Habitat Protection, Enhancement, and Restoration Plan
Habitat Conservation Plan</td></tr>
<tr><td>Implementation Issues</td><td colspan="4">Difficulty in identifying suitable land for wetlands creation with beneficial habitat creation.</td></tr>
<tr><td>Notes</td><td colspan="4">The project will investigate what sites are suitable for purchase and wetlands restoration for</td></tr>
</table>

	use as future mitigation sites within Santa Clara County. This project is responsible for past maintenance wetland mitigation commitments, as well as providing wetland mitigation for other District projects.

Homeless Encampment Minimization Program

<table>
<tr><td>Project Number</td><td colspan="4">CPR-A-01</td></tr>
<tr><td>Project Name</td><td colspan="4">Homeless Encampment Minimization Program</td></tr>
<tr><td>Project Manager</td><td colspan="4">Local Police Departments</td></tr>
<tr><td>Primary Goal</td><td colspan="4">Encourage Community participation in Coyote Watershed Stewardship Activities</td></tr>
<tr><td>Primary Objective</td><td colspan="4">CPR_A. Ensure public safety along creeks</td></tr>
<tr><td>Ends Policies</td><td colspan="4">1. There is a healthy and safe environment for residents and visitors.</td></tr>
<tr><td>District Role</td><td colspan="4">Partner</td></tr>
<tr><td>Potential Agency Participation</td><td colspan="4">Local social service agencies</td></tr>
<tr><td>Location</td><td colspan="4">Coyote Watershed</td></tr>
<tr><td>Description</td><td colspan="4">In order to increase creek access public safety, work with local agencies to minimize homeless encampments in riparian areas.</td></tr>
<tr><td>Project Components</td><td colspan="4">a. Identify which social service agencies would be involved.
b. Contact and meet with social service agencies to determine what solutions would be viable
c. Manage program as a partnership with social service agencies.</td></tr>
<tr><td rowspan="3">Budget/Schedule</td><td></td><td>Schedule</td><td>Duration</td><td>Budget</td></tr>
<tr><td>Study/Planning</td><td>2002</td><td>1 year</td><td>$50,000</td></tr>
<tr><td>Implementation</td><td>2002-onwards</td><td>Ongoing</td><td>$100,000/yr</td></tr>
<tr><td>Linkages</td><td colspan="4">Public Safety Improvements</td></tr>
<tr><td>Implementation Issues</td><td colspan="4"></td></tr>
<tr><td>Notes</td><td colspan="4"></td></tr>
</table>

Public Safety Improvements Within District Rights-of-Way

Project Number	CPR-A-02			
Project Name	Public Safety Improvements Within District Rights-of-Way			
Project Manager	Community Projects Review Unit			
Primary Goal	Encourage Community participation in Coyote Watershed Stewardship Activities			
Primary Objective	CPR_A. Ensure public safety along creeks			
Ends Policies	1. There is a healthy and safe environment for residents and visitors.			
District Role	Partner/Supporter			
Potential Agency Participation	City of San Jose City of Milpitas Santa Clara County			
Location	Creekside throughout Coyote Watershed at public access areas			
Description	Improve safety at primary access areas by providing lighting, call boxes, and limiting access to potentially unsafe areas.			
Project Components	a. Identify and characterize public access areas for public safety. b. Develop criteria and process for evaluating level of public safety provided at creek access points. Need to work with city police departments to see what is possible. c. Identify locations with safety requirements. d. Provide review and approval of proposed safety improvements. e. Design fencing or physical safety barriers, if required. f. Construct fencing or physical safety barriers, if required. g. Install non-built safety equipment, such as call boxes.			
Budget/Schedule		Schedule	Duration	Budget
	Study/Planning	2002-2004	1-2 years	$500-700,000
	Design	2003-2005	1-3 years	$500-1.2 mil
	Construction/Installation	2005-2008	1-3 years	$1-8 mil
Linkages	Homeless Encampment Minimization Program			
Implementation Issues				
Notes				

Public Access Sanitation Improvements

Project Number	CPR-B-01			
Project Name	Public Access Sanitation Improvements			
Project Manager	Community Projects Review Unit			
Primary Goal	Encourage Community participation in Coyote Watershed Stewardship Activities			
Primary Objective	CPR_B: Meet community aesthetic standards			
Ends Policies	1. There is a healthy and safe environment for residents and visitors.			
District Role	Partner or Supporter			
Potential Agency Participation	Local garbage companies City of San Jose			
Location	Coyote Watershed			
Description	Identify creek public access areas that have or could have litter accumulation and install more trash containers.			
Project Components	a. Identify and characterize existing sanitation facilities and levels of public creek access (the amount of people that visit the creek). b. Develop criteria and process for determining the amount of sanitation facilities and frequency of maintenance they would require. c. Identify locations that need sanitation facilities. d. Install sanitation facilities.			
Budget/Schedule		Schedule	Duration	Budget
	Study/Planning	2002	1 year	$20,000
	Installation	2003	1 year	$200,000
	Maintenance	Ongoing	Ongoing	$50,000-100,000/yr
Linkages	Public Safety Improvements Homeless Encampment Minimization Program			
Implementation Issues	May create unsightly appearance			
Notes	Should be coordinated with overall recreation plan(s)			

New Recreational Trails Construction

<table>
<tr><td>Project Number</td><td colspan="4">CPR-C-01</td></tr>
<tr><td>Project Name</td><td colspan="4">New Recreational Trails Construction</td></tr>
<tr><td>Project Manager</td><td colspan="4">Community Projects Review Unit</td></tr>
<tr><td>Primary Goal</td><td colspan="4">Encourage Community participation in Coyote Watershed Stewardship Activities</td></tr>
<tr><td>Primary Objective</td><td colspan="4">CPR_C. Increase and/or improve appropriate recreational features along creeks</td></tr>
<tr><td>Ends Policies</td><td colspan="4">2.2 There are additional open spaces, trails, and parks along creeks and in the watersheds when reasonable and appropriate.</td></tr>
<tr><td>District Role</td><td colspan="4">Partner or Supporter</td></tr>
<tr><td>Potential Agency Participation</td><td colspan="4">City of San Jose
City of Milpitas
County Trails</td></tr>
<tr><td>Location</td><td colspan="4">See Chapter 4, Map 4-4 and Table 4-7</td></tr>
<tr><td>Description</td><td colspan="4">Construct trails at identified locations, linking into Bay Trail, existing trails and provide interconnections with City of San Jose, City of Milpitas and County Trails.</td></tr>
<tr><td>Project Components</td><td colspan="4">a. Work with County, City of San Jose and City of Milpitas on partnerships for funding, right-of-way acquisition, and linking trails
b. Acquire right of way
c. Ensure trails will not create intrusive recreational features
d. Identify if there are existing trails that may require repair or improvement
e. Design trails
f. Construct trials</td></tr>
<tr><td rowspan="4">Budget/Schedule</td><td></td><td>Schedule</td><td>Duration</td><td>Budget</td></tr>
<tr><td>Study/Planning</td><td>2002-2004</td><td>1-2 years</td><td>$150-250,000</td></tr>
<tr><td>Design</td><td>2003-2004</td><td>1 year</td><td>$250,000</td></tr>
<tr><td>Construction</td><td>2004-2006</td><td>1-3 years</td><td>$500K-$3 million</td></tr>
<tr><td>Linkages</td><td colspan="4">Open Spaces, Trails, and Parks Master Planning
Removal of Intrusive Recreational Features
Coyote Watershed Creek Restoration and Inventory Study
Public Safety Improvements
Homeless Encampment Minimization Program
Public Access Sanitation Improvements
Habitat Protection, Enhancement, and Restoration Plan
Habitat Conservation Plan</td></tr>
<tr><td>Implementation Issues</td><td colspan="4"></td></tr>
<tr><td>Notes</td><td colspan="4">Location of desired trails have largely been identified. The land and facilities associated with the trails are yet to be determined.</td></tr>
</table>

Open Spaces, Trails, and Parks Master Planning

<table>
<tr><td>Project Number</td><td colspan="4">CPR-C-02</td></tr>
<tr><td>Project Name</td><td colspan="4">Open Spaces, Trails, and Parks Master Planning</td></tr>
<tr><td>Project Manager</td><td colspan="4">Watershed Planning Unit</td></tr>
<tr><td>Primary Goal</td><td colspan="4">Encourage Community participation in Coyote Watershed Stewardship Activities</td></tr>
<tr><td>Primary Objective</td><td colspan="4">CPR_C. Increase and/or improve appropriate recreational features along creeks</td></tr>
<tr><td>Ends Policies</td><td colspan="4">2.2 There are additional open spaces, trails, and parks along creeks and in the watersheds when reasonable and appropriate.</td></tr>
<tr><td>District Role</td><td colspan="4">Partner</td></tr>
<tr><td>Potential Agency Participation</td><td colspan="4">Santa Clara County
City of Milpitas
City of San Jose</td></tr>
<tr><td>Location</td><td colspan="4">Coyote Watershed</td></tr>
<tr><td>Description</td><td colspan="4">Develop an implementation plan for community partnerships that identify and provide access to 70 miles of open space and/or trails (an equivalent of 4.7 miles of open space and/or trails annually). This project include identification of potential open space and trail opportunities, developing partnerships, and completing a plan for developing the 70 miles over the next 15 years.</td></tr>
<tr><td>Project Components</td><td colspan="4">a. Locate and characterize recreational opportunity at existing and planned open space, trails, and parks areas
b. Develop criteria and process for evaluating potential recreational activities in open space, trails, and parks sites.
c. Evaluate specific open space, trails and parks sites.
d. Conduct special surveys on additional open space, trails, and parks sites/activities.
e. Develop an interactive GIS and install on District website.
f. Design trails as part of community partnership.
g. Construct trails as part of community partnership.</td></tr>
<tr><td rowspan="4">Budget/Schedule</td><td></td><td>Schedule</td><td>Duration</td><td>Budget</td></tr>
<tr><td>Study/Planning</td><td>2002-2004</td><td>1-2 years</td><td>$300,000</td></tr>
<tr><td>Design</td><td>2003-2004</td><td>1 year</td><td>$500,000</td></tr>
<tr><td>Construction</td><td>2004-2006</td><td>1- 3 years</td><td>$1-10 million</td></tr>
<tr><td>Linkages</td><td colspan="4">Measure B: Clean and Safe Creek and Natural Flood Protection
New Trails Construction Project
Removal of Intrusive Recreational Features
Coyote Watershed Creek Restoration and Inventory Study
Public Safety Improvements
Homeless Encampment Minimization Program
Public Access Sanitation Improvements
Habitat Protection, Enhancement, and Restoration Plan
Habitat Conservation Plan</td></tr>
<tr><td>Implementation Issues</td><td colspan="4">Land Acquisition</td></tr>
<tr><td>Notes</td><td colspan="4">This would build upon information collected as part of other plans, such as the County Trails and Milpitas Trails Master Plans.
Work with Santa Clara County. Develop Community partnerships to identify and construct</td></tr>
</table>

	trails. Potential trail construction has previously been identified on Berryessa and Calera Creek.

Removal of Intrusive Recreational Features

<table>
<tr><td>Project Number</td><td colspan="4">CPR-C-03</td></tr>
<tr><td>Project Name</td><td colspan="4">Removal of Intrusive Recreational Features</td></tr>
<tr><td>Project Manager</td><td colspan="4">Watershed Planning Unit</td></tr>
<tr><td>Primary Goal</td><td colspan="4">Encourage Community participation in Coyote Watershed Stewardship Activities</td></tr>
<tr><td>Primary Objective</td><td colspan="4">CPR_C. Increase and/or improve appropriate recreational features along creeks</td></tr>
<tr><td>Ends Policies</td><td colspan="4">2.1 Watersheds, streams, and the natural resources therein are protected and, when appropriate, enhanced or restored.</td></tr>
<tr><td>District Role</td><td colspan="4">Partner or Supporter</td></tr>
<tr><td>Potential Agency Participation</td><td colspan="4">Department of Fish and Game
Environmental Protection Agency
Regional Water Quality Control Board</td></tr>
<tr><td>Location</td><td colspan="4">Coyote Watershed</td></tr>
<tr><td>Description</td><td colspan="4">Identify and relocate intrusive trails, roadways, and equestrian activities outside habitat areas. Replace intrusive trail crossings with bridges.</td></tr>
<tr><td>Project Components</td><td colspan="4">a. Identify and characterize existing trails, equestrian, and parks areas in relation to habitat.
b. Identify locations with opportunities to habitat areas by relocating or replacing trails, park areas, and equestrian areas.
c. Design new non-intrusive trails, equestrian, and park areas
d. Construct new non-intrusive trails, equestrian, and park areas.
e. Monitor trails, equestrian, and park areas to ensure habitat protection.</td></tr>
<tr><td rowspan="5">Budget/Schedule</td><td></td><td>Schedule</td><td>Duration</td><td>Budget</td></tr>
<tr><td>Study/Planning</td><td>2002-2004</td><td>1-2 years</td><td>$150,000</td></tr>
<tr><td>Design</td><td>2003-2004</td><td>1 year</td><td>$400,000</td></tr>
<tr><td>Construction</td><td>2004-2006</td><td>1-3 years</td><td>$500K-$5 million</td></tr>
<tr><td>Monitoring</td><td>2006-Onwards</td><td>Ongoing</td><td>$100,000/yr</td></tr>
<tr><td>Linkages</td><td colspan="4">New Trails Construction Project
Open Spaces, Trails, and Parks Master Planning
Coyote Watershed Creek Restoration and Inventory Study
Public Safety Improvements
Homeless Encampment Minimization Program
Public Access Sanitation Improvements
Habitat Protection, Enhancement, and Restoration Plan
Habitat Conservation Plan</td></tr>
<tr><td>Implementation Issues</td><td colspan="4"></td></tr>
<tr><td>Notes</td><td colspan="4"></td></tr>
</table>

Upper Penitencia Ponds Recreation Area

<table>
<tr><td>Project Number</td><td colspan="4">CPR-C-04</td></tr>
<tr><td>Project Name</td><td colspan="4">Upper Penitencia Ponds Recreation Area</td></tr>
<tr><td>Project Manager</td><td colspan="4">Watershed Management</td></tr>
<tr><td>Primary Goal</td><td colspan="4">Encourage Community participation in Coyote Watershed Stewardship Activities</td></tr>
<tr><td>Primary Objective</td><td colspan="4">CPR_C. Increase and/or improve appropriate recreational features along creeks</td></tr>
<tr><td>Ends Policies</td><td colspan="4">2. There is an enhanced quality of life in Santa Clara County.</td></tr>
<tr><td>District Role</td><td colspan="4">Supporter</td></tr>
<tr><td>Potential Agency Participation</td><td colspan="4">City of San Jose</td></tr>
<tr><td>Location</td><td colspan="4">Upper Penitencia percolation ponds</td></tr>
<tr><td>Description</td><td colspan="4">Provide picnic tables and benches at Upper Penitencia percolation ponds.</td></tr>
<tr><td>Project Components</td><td colspan="4">a. Determine where picnic tables and benches should be, based on existing trails and proximity to public access points.
b. Install picnic tables.
c. Include park land and percolation pond area.</td></tr>
<tr><td rowspan="3">Budget/Schedule</td><td></td><td>Schedule</td><td>Duration</td><td>Budget</td></tr>
<tr><td>Study/Planning</td><td colspan="2">Verify that CSJ plan is suitable</td><td>$25,000</td></tr>
<tr><td>Installation</td><td>2001-2003</td><td>2-3 years</td><td>$150,000</td></tr>
<tr><td>Linkages</td><td colspan="4">Public Access Sanitation Improvements
Public Safety Improvements
Homeless Encampment Minimization Program</td></tr>
<tr><td>Implementation Issues</td><td colspan="4">Increase access to percolation pond area could impact water quality</td></tr>
<tr><td>Notes</td><td colspan="4">Coordinate with CSJ Upper Penitencia Creek Park Master Plan</td></tr>
</table>

K-12 Watershed Education Program

<table>
<tr><td>Project Number</td><td colspan="4">CPR-D-01</td></tr>
<tr><td>Project Name</td><td colspan="4">K-12 Watershed Education Programs</td></tr>
<tr><td>Project Manager</td><td colspan="4">Watershed Management</td></tr>
<tr><td>Primary Goal</td><td colspan="4">Encourage Community participation in Coyote Watershed Stewardship Activities</td></tr>
<tr><td>Primary Objective</td><td colspan="4">CPR_D. Foster among students a knowledge, respect and sense of stewardship for living streams</td></tr>
<tr><td>Ends Policies</td><td colspan="4">2. There is an enhanced quality of life in Santa Clara County.</td></tr>
<tr><td>District Role</td><td colspan="4">Supporter or Partner</td></tr>
<tr><td>Potential Agency Participation</td><td colspan="4">Local school districts</td></tr>
<tr><td>Location</td><td colspan="4">Coyote Watershed</td></tr>
<tr><td>Description</td><td colspan="4">Develop programs for K-12 students working with local schools. Include programs such as NOAA’s GLOBE program or USFWS’s teacher’s packet on Endangered Species, using creek as an “outdoor classroom”.</td></tr>
<tr><td>Project Components</td><td colspan="4">a. Research the types of “outdoor classroom” programs available, such as NOAA’s GLOBE program or USFWS’s teacher’s packet on Endangered Species.
b. Meet with local school districts to determine level of interest and participation.
c. Based on the school districts meeting, meet with local schools and their staff to determine the types of educational programs that would be appropriate.
d. Work with teachers to develop programs that compliment their curriculum.
e. Provide support for teachers and school districts to use “outdoor classroom” programs.</td></tr>
<tr><td rowspan="3">Budget / Schedule</td><td></td><td>Schedule</td><td>Duration</td><td>Budget</td></tr>
<tr><td>Setup Program</td><td>2002</td><td>6 months</td><td>$50,000</td></tr>
<tr><td>Implementation</td><td>2002-onwards</td><td>Ongoing</td><td>$150,000/yr</td></tr>
<tr><td>Linkages</td><td colspan="4">Non-Native and Exotic Species Education
Community Watershed Education Program
Community Watershed Stewardship Program</td></tr>
<tr><td>Implementation Issues</td><td colspan="4"></td></tr>
<tr><td>Notes</td><td colspan="4">City of San Jose has similar program for “Slow the Flow”</td></tr>
</table>

Community Watershed Education Program

<table>
<tr><td>Project Number</td><td colspan="4">CPR-E-01</td></tr>
<tr><td>Project Name</td><td colspan="4">Community Watershed Education Program</td></tr>
<tr><td>Project Manager</td><td colspan="4">Public Information Office</td></tr>
<tr><td>Primary Goal</td><td colspan="4">Encourage Community participation in Coyote Watershed Stewardship Activities</td></tr>
<tr><td>Primary Objective</td><td colspan="4">CPR_E. Provide educational opportunities and interpretive resources for the general public.</td></tr>
<tr><td>Ends Policies</td><td colspan="4">2. There is an enhanced quality of life in Santa Clara County.
2.1 Watersheds, streams, and the natural resources therein are protected and, when appropriate, enhanced or restored.</td></tr>
<tr><td>District Role</td><td colspan="4">Partner/Supporter</td></tr>
<tr><td>Potential Agency Participation</td><td colspan="4">Local environmental groups
Local school districts</td></tr>
<tr><td>Location</td><td colspan="4">Coyote Watershed</td></tr>
<tr><td>Description</td><td colspan="4">Develop and implement a comprehensive educational program for the community regarding the Coyote Creek Watershed.</td></tr>
<tr><td>Project Components</td><td colspan="4">a. Identify the need and purpose for an educational topic. These topics include:
• Flood preparedness and floodplain management practices
• Invasive and non-native species
• Steelhead and salmon recovery efforts
• Good land practices and BMPs to achieve water quality goals
b. Determine the intended audience for each topic (such as landowners, residents, visitors, etc.)
c. Develop educational program that will cover the selected topic for the intended audience, and who will provide the educational training.
d. Determine where the educational program will be provided (at the creek, at District facilities, a community center, etc.).
e. Conduct educational program.
f. Provide educational facilities (similar to Coyote Creek Classroom) at other locations within watershed and develop permanent educational display posts at creek access points.
g. Provide educational materials regarding District programs and community involvement in stream stewardship.</td></tr>
<tr><td rowspan="3">Budget/Schedule</td><td></td><td>Schedule</td><td>Duration</td><td>Budget</td></tr>
<tr><td>Setup Program</td><td>2002</td><td>6 months</td><td>$50,000</td></tr>
<tr><td>Implementation</td><td>2002-onwards</td><td>Ongoing</td><td>$150,000/yr</td></tr>
</table>

Linkages	K-12 Watershed Education Programs Non-Native and Exotic Species Education Community Watershed Stewardship Program Salmonid Recovery Program Native Warmwater Fisheries Program Land Use Seminars Water Quality Management Plan Property Buy-Out Program Flood Mapping Update and Insurance Liaison Flood Facility Projects Habitat Conservation Plan
Implementation Issues	
Notes	

Non-Native and Exotic Species Education

<table>
<tr><td>Project Number</td><td colspan="4">CPR-F-01</td></tr>
<tr><td>Project Name</td><td colspan="4">Non-Native and Exotic Species Education</td></tr>
<tr><td>Project Manager</td><td colspan="4">Watershed Management</td></tr>
<tr><td>Primary Goal</td><td colspan="4">Encourage Community participation in Coyote Watershed Stewardship Activities</td></tr>
<tr><td>Primary Objective</td><td colspan="4">CPR_F. Provide outreach to community organizations and general public</td></tr>
<tr><td>Ends Policies</td><td colspan="4">2.1 Watersheds, streams, and the natural resources therein are protected and, when appropriate, enhanced or restored.</td></tr>
<tr><td>District Role</td><td colspan="4">Partner or Supporter</td></tr>
<tr><td>Potential Agency Participation</td><td colspan="4">California Native Plant Society
California Department of Fish and Game
Santa Clara County Audubon Society</td></tr>
<tr><td>Location</td><td colspan="4">Coyote Watershed</td></tr>
<tr><td>Description</td><td colspan="4">Provide information/educate local nurseries, landscaping companies, and residents regarding non-native or exotic species and their effect on the watershed.</td></tr>
<tr><td>Project Components</td><td colspan="4">a. Educate residents about problems associated with the incidental transport/relocation of non-native or exotic species.
b. Determine the intended audience.
c. Develop educational program that will cover the selected topic for the intended audience, and who will provide the educational training.
d. Determine where the educational program will be provided (at the creek, at District facilities, a community center, etc.).
e. Conduct educational program.
f. Work with nurseries and landscape advisory committee to reduce sales of invasive species, promote sales of native plants and educate consumers on the benefits of native species.
• Identify current problematic invasive species, particularly those known to affect the watershed.
• Research and identify possible native plant substitutions for popular non-native species. Include plants that may have other benefits, such as drought resistance.
• Meet with nurseries and landscape advisory committee to develop an appropriate program to reduce use and sales of invasive species.
g. Create program similar to ITAP to provide education about the benefits of utilizing native species for private landscaping.
• Coordinate with nurseries (see above) and the Community Watershed Education Program to develop a comprehensive educational program.</td></tr>
<tr><td rowspan="3">Budget/Schedule</td><td></td><td>Schedule</td><td>Duration</td><td>Budget</td></tr>
<tr><td>Program Creation</td><td>2002</td><td>6 months</td><td>$100,000</td></tr>
<tr><td>Program Implementation</td><td>2002-Onwards</td><td>Ongoing</td><td>$150,000/yr</td></tr>
</table>

Linkages	Community Watershed Education Program K-12 Watershed Education Programs Community Watershed Stewardship Program Invasive, Non-native and Destructive Species Control Program Habitat Conservation Plan Habitat Protection, Enhancement, and Restoration Plan
Implementation Issues	
Notes	California Native Plant Society has native plant programs and lists local nurseries that sell native plants.

Community Watershed Stewardship Program

Project Number	CPR-G-01			
Project Name	Community Watershed Stewardship Program			
Project Manager	Watershed Management			
Primary Goal	Encourage Community participation in Coyote Watershed Stewardship Activities			
Primary Objective	CPR_G. Increase partnership and support of groups (environmental, community, etc.) to preserve and restore aquatic, riparian and other habitat			
Ends Policies	2.1 Watersheds, streams, and the natural resources therein are protected and, when appropriate, enhanced or restored.			
District Role	Partner or Supporter			
Potential Agency Participation	California Native Plant Society California Department of Fish and Game Local civic and community groups			
Location	Coyote Watershed			
Description	Foster and encourage public support and sense of ownership for Coyote Watershed by providing stewardship activities and educational programs.			
Project Components	a. Evaluate mechanisms for community input regarding how creeks are managed for public use. This could include the creation of a watershed council b. Develop community creek cleanup events, such as the National River Cleanup Day. c. Evaluate feasibility of citizen water monitoring program. d. Augment Adopt-A-Creek and Streamkeeper programs in the watershed. e. Encourage volunteer invasive species removal events (similar in nature to creek cleanup events). f. Assist in funding community stewardship events.			
Budget / Schedule		Schedule	Duration	Budget
	Planning	2002	6 months	$100,000
	Implementation	2002-Onwards	Ongoing	$150,000/yr
Linkages	K-12 Watershed Education Programs Community Watershed Education Program Non-Native and Exotic Species Education Invasive, Non-native and Destructive Species Control Program Habitat Conservation Plan Habitat Protection, Enhancement, and Restoration Plan Salmonid Recovery Program Native Warmwater Fisheries Program Water Quality Management Plan			
Implementation Issues				
Notes	California Naïve Plant Society already holds invasive plant species removal events.			

Watershed Revitalization Planning Program

<table>
<tr><td>Project Number</td><td colspan="4">PI-A-01</td></tr>
<tr><td>Project Name</td><td colspan="4">Watershed Revitalization Planning Program</td></tr>
<tr><td>Project Manager</td><td colspan="4">Watershed Management</td></tr>
<tr><td>Primary Goal</td><td colspan="4">Program Implementation - Implement the SSP in an Efficient and Effective Manner</td></tr>
<tr><td>Primary Objective</td><td colspan="4">PI_A. Foster coordination of District activities/projects with other agencies</td></tr>
<tr><td>Ends Policies</td><td colspan="4">2. There is an enhanced quality of life in Santa Clara County.
2.1 Watersheds, streams, and the natural resources therein are protected and, when appropriate, enhanced or restored.</td></tr>
<tr><td>District Role</td><td colspan="4">Supporter or Partner</td></tr>
<tr><td>Potential Agency Participation</td><td colspan="4">Local neighborhood/community groups</td></tr>
<tr><td>Location</td><td colspan="4">Coyote Watershed</td></tr>
<tr><td>Description</td><td colspan="4">Coordinate with local neighborhood revitalization planning processes (e.g. San Jose Strong Neighborhoods Initiative).</td></tr>
<tr><td>Project Components</td><td colspan="4">a. Meet with San Jose Strong Neighborhoods Initiative and other local neighborhood organizations to determine goals and feasibility of program partnership
b. Working with these organizations, develop a program to meet stated goals.
c. Provide program management where applicable.</td></tr>
<tr><td rowspan="2">Budget/Schedule</td><td></td><td>Schedule</td><td>Duration</td><td>Budget</td></tr>
<tr><td>Coordination/Planning</td><td>2002</td><td>1 year</td><td>$75,000</td></tr>
<tr><td>Linkages</td><td colspan="4">Stream and Wetland Revegetation Project
Community Watershed Stewardship Program
Habitat Protection, Enhancement, and Restoration Plan
Open Spaces, Trails, and Parks Master Planning
Coyote Watershed Creek Restoration and Inventory Study
K-12 Watershed Education Programs
Community Watershed Education Program
Non-Native and Exotic Species Education
Property Buy-Out Program
Flood Mapping Update and Insurance Liaison
SRA Cover Habitat Conservation and Augmentation Program</td></tr>
<tr><td>Implementation Issues</td><td colspan="4"></td></tr>
<tr><td>Notes</td><td colspan="4"></td></tr>
</table>

Santa Clara Valley Urban Runoff Pollution Prevention Program

<table>
<tr><td>Project Number</td><td colspan="4">PI-A-02</td></tr>
<tr><td>Project Name</td><td colspan="4">Santa Clara Valley Urban Runoff Pollution Prevention Program</td></tr>
<tr><td>Project Manager</td><td colspan="4">Watershed Management</td></tr>
<tr><td>Primary Goal</td><td colspan="4">Program Implementation - Implement the SSP in an Efficient and Effective Manner</td></tr>
<tr><td>Primary Objective</td><td colspan="4">PI_A. Foster coordination of District activities/projects with other agencies</td></tr>
<tr><td>Ends Policies</td><td colspan="4">1.1.1 The water supply meets or exceeds all applicable water quality regulatory standards in a cost-effective manner.
1.2.2.2 There is clean, safe water in our creeks and bays.
2. There is an enhanced quality of life in Santa Clara County.
2.1 Watersheds, streams, and the natural resources therein are protected and, when appropriate, enhanced or restored.</td></tr>
<tr><td>District Role</td><td colspan="4">Partner</td></tr>
<tr><td>Potential Agency Participation</td><td colspan="4">Santa Clara Valley Urban Runoff Pollution Prevention Program</td></tr>
<tr><td>Location</td><td colspan="4">Coyote Watershed</td></tr>
<tr><td>Description</td><td colspan="4">This project provides for District participation in the Santa Clara Valley Urban Runoff Pollution Prevention Program (SVURPPP) to comply with the stormwater permit issued by the Regional Water Quality Control Board. The District participates in collaborative efforts with 14 other co-permitees to protect aquatic habitat, recreational water uses, and local water supply by preventing pollution of storm water runoff into Santa Clara Valley creeks.</td></tr>
<tr><td>Project Components</td><td colspan="4">a. Continue to work with SCVURPPP to identify and implement projects as appropriate
b. Conduct Program special studies and watershed monitoring activities to characterize drainage areas and storm water discharges, identify potential pollutant sources, assess potential adverse impacts on beneficial uses, and evaluate the effectiveness of control measures.
c. Provide for Program general and targeted public outreach and education programs to increase non-point source pollution awareness, promote pollution prevention measures, and to provide an opportunity for public participation and input to the program.</td></tr>
<tr><td rowspan="2">Budget/Schedule</td><td></td><td>Schedule</td><td>Duration</td><td>Budget</td></tr>
<tr><td>Annual District Support</td><td>Ongoing</td><td>Ongoing</td><td>$850,000 (02/03)</td></tr>
<tr><td>Linkages</td><td colspan="4">Stormwater Discharge Reduction Program
TMDL/Diazinon Management Program
Stormwater Retrofit Pilot Study
Stormwater Detention and Infiltration Ponds
Water Quality Management Plan
Identification of Beneficial Uses in Coyote Watershed/Basin Plan Update
Grazing Solutions (GRASS) Support
Habitat Conservation Plan
Habitat Protection, Enhancement, and Restoration Plan</td></tr>
<tr><td>Implementation Issues</td><td colspan="4"></td></tr>
<tr><td>Notes</td><td colspan="4">The SVURPPP mission is to assist in the protection of beneficial uses of receiving waters by</td></tr>
</table>

	preventing pollutants generated from activities in urban service areas from entering runoff to the maximum extent practicable.

Santa Clara Valley Basin Watershed Management Initiative

Project Number	PI-A-03			
Project Name	Santa Clara Valley Basin Watershed Management Initiative			
Project Manager	Countywide Watershed Programs Units			
Primary Goal	Program Implementation - Implement the SSP in an Efficient and Effective Manner			
Primary Objective	PI_A. Foster coordination of District activities/projects with other agencies			
Ends Policies	2. There is an enhanced quality of life in Santa Clara County. 2.1 Watersheds, streams, and the natural resources therein are protected and, when appropriate, enhanced or restored.			
District Role	Partner			
Potential Agency Participation	Over 20 participating agencies and stakeholders			
Location	Coyote Watershed			
Description	Continue to participate and contribute to the Watershed Management Initiative (WMI). Provide funding and support as needed, through the development of the Watershed Action Plan.			
Project Components	a. Participate in Core Group Meetings b. Prepare, participate and follow-up for subgroup meetings c. Participate in workgroups d. Coordinate WMI activities within District e. Participate in focused groups f. Assist in other potential activities as needed			
Budget/Schedule		Schedule	Duration	Budget
	Annual District Support	Ongoing	Ongoing	$550,000
Linkages	All projects and programs			
Implementation Issues				
Notes	The mission of the WMI is to protect and enhance the watershed, creating a sustainable future for the community and the environment. The ultimate goal is to develop an implement able Watershed Action Plan, used by all stakeholders interested in stream stewardship.			

Stewardship Plans for West Valley, Guadalupe and Lower Peninsula Watersheds

<table>
<tr><td>Project Number</td><td colspan="4">PI-B-01</td></tr>
<tr><td>Project Name</td><td colspan="4">Stewardship Plans for West Valley, Guadalupe and Lower Peninsula Watersheds</td></tr>
<tr><td>Project Manager</td><td colspan="4">Watershed Management</td></tr>
<tr><td>Primary Goal</td><td colspan="4">Program Implementation - Implement the SSP in an Efficient and Effective Manner</td></tr>
<tr><td>Primary Objective</td><td colspan="4">PI_B. Apply an integrated, adaptive management approach</td></tr>
<tr><td>Ends Policies</td><td colspan="4">2. There is an enhanced quality of life in Santa Clara County.
2.1 Watersheds, streams, and the natural resources therein are protected and, when appropriate, enhanced or restored.</td></tr>
<tr><td>District Role</td><td colspan="4">Leader or Partner</td></tr>
<tr><td>Potential Agency Participation</td><td colspan="4">Santa Clara Basin Watershed Management Initiative</td></tr>
<tr><td>Location</td><td colspan="4">West Valley, Guadalupe, and Lower Peninsula Watersheds</td></tr>
<tr><td>Description</td><td colspan="4">Stewardship Plans will be developed for the West Valley, Guadalupe and Lower Peninsula Watersheds to document long-range projections, incorporate information from ongoing District efforts, and define future projects and strategies needed to achieve the District's Ends Policy.</td></tr>
<tr><td>Project Components</td><td colspan="4">a. Define existing conditions and status of District supported initiatives in Watershed.
b. Define long-range Projection for land use, transportation and recreation in the Watershed.
c. Confirm the District's goals and objectives for the Watershed considering the District's Ends Policy and long-range projections of other agencies.
d. Identify potential projects, near-term and long-term, to meet the Goals and Objectives for District assets in the Watershed.
e. Summarize and propose O & M strategies to meet the District's Goals and Objectives.
f. Summarize and propose guidance documents for new developments.
g. Obtain stakeholder and public Input regarding potential projects, proposed O & M Strategies, and development guidance.
h. Refine projects, O & M Strategies, and development guidance based upon stakeholder input.
i. Develop implementation details regarding funding, ordinances, design guidelines, and schedules for Stewardship Plan recommendations.
j. Identify the current jurisdictional, physical, environmental, recreational features, management policies, O & M activities, as well as planned projects, programs, and activities</td></tr>
<tr><td rowspan="2">Budget/Schedule</td><td></td><td>Schedule</td><td>Duration</td><td>Budget</td></tr>
<tr><td>Planning</td><td>2002-2003</td><td>1-2 years</td><td>$1.4 mil</td></tr>
<tr><td>Linkages</td><td colspan="4">All projects and programs</td></tr>
<tr><td>Implementation Issues</td><td colspan="4">Received $700,000 in funding from CalFed to create Stewardship Plans for the three watersheds</td></tr>
<tr><td>Notes</td><td colspan="4">Some information is District wide, and can be similar to that contained in Coyote SSP</td></tr>
</table>

	Uvas/Llagas Watershed is covered by the Pajaro Flood Protection Authority planning efforts. Coordinate with Measure B operations plan.

Stream Resources Inventory and Management Program

<table>
<tr><td>Project Number</td><td colspan="4">PI-B-02</td></tr>
<tr><td>Project Name</td><td colspan="4">Stream Resources Inventory and Management Program</td></tr>
<tr><td>Project Manager</td><td colspan="4">Watershed Manager(s)</td></tr>
<tr><td>Primary Goal</td><td colspan="4">Program Implementation - Implement the SSP in an Efficient and Effective Manner</td></tr>
<tr><td>Primary Objective</td><td colspan="4">PI_B: Apply an integrated, adaptive management approach.</td></tr>
<tr><td>Ends Policies</td><td colspan="4">1.2.2 There is a balance between the contributions of watersheds and streams in providing for public health and safety and in providing protection of natural resource benefits.
2.1 Watersheds, streams, and the natural resources therein are protected and, when appropriate, enhanced or restored.</td></tr>
<tr><td>District Role</td><td colspan="4">Leader</td></tr>
<tr><td>Potential Agency Participation</td><td colspan="4">TBD</td></tr>
<tr><td>Location</td><td colspan="4">Coyote Watershed</td></tr>
<tr><td>Description</td><td colspan="4">This project will provide for collection of baseline biological data and information to support District projects and develop a comprehensive understanding of the geological resources within Santa Clara County. Additionally, these projects will develop a project plan to coordinate and consolidate District monitoring efforts and improve efficiency and effectiveness.</td></tr>
<tr><td>Project Components</td><td colspan="4">a. Develop criteria and protocols for collecting and storing data on watershed activities, facilities, and projects, including monitoring and maintenance activities
b. Determine baseline conditions to serve as a benchmark for comparison.
c. Prepare a database inventory of the collected data, and methods for easy extraction (such as for monitoring and maintenance activities)
d. Enter and update information in GIS format
e. Allow database to work with other District databases, such as importing and exporting data
f. Analyze data to determine potential increased efficiencies associated with monitoring.</td></tr>
<tr><td rowspan="4">Budget/Schedule</td><td></td><td>Schedule</td><td>Duration</td><td>Budget</td></tr>
<tr><td>Planning</td><td>2001-2003</td><td>1 to 3 years</td><td>$420,000</td></tr>
<tr><td>Design</td><td>TBD</td><td>1 to 2 years</td><td>TBD</td></tr>
<tr><td>Implementation</td><td>TBD</td><td>1 to 2 years</td><td>TBD</td></tr>
<tr><td>Linkages</td><td colspan="4">Watershed Data and Information Management
Watershed Assessment Monitoring Program
All watershed projects and programs.</td></tr>
<tr><td>Implementation Issues</td><td colspan="4"></td></tr>
</table>

Notes	Program could be used for predicting and scheduling routine maintenance, estimating or recording observed condition of structural elements, a basis for budgeting capital improvements for structural improvements, and to facilitate analysis of cost of watershed management activities.

Funding Partnerships

Project Number	PI-E-01			
Project Name	Funding Partnerships			
Project Manager	Watershed Management			
Primary Goal	Program Implementation - Implement the SSP in an Efficient and Effective Manner			
Primary Objective	PI_E. Optimize use of public and private resources to accomplish SSP goals.			
Ends Policies	2. There is an enhanced quality of life in Santa Clara County. 2.1 Watersheds, streams, and the natural resources therein are protected and, when appropriate, enhanced or restored.			
District Role	Leader			
Potential Agency Participation	TBD			
Location	Coyote Watershed			
Description	Identify funding partnerships for identified prioritized projects.			
Project Components	a. Research and identify possible federal, state, and local funding sources. b. Determine if any of these funding opportunities would be increased or more readily available if funding partnerships were formed for prioritized projects. c. Develop appropriate partnerships, based on the project. d. Obtain funding.			
Budget/Schedule		Schedule	Duration	Budget
	To be determined			
Linkages	All projects and programs			
Implementation Issues				
Notes	To be updated with distribution of Chapter 13			

Project Funding

<table>
<tr><td>Project Number</td><td colspan="4">PI-E-02</td></tr>
<tr><td>Project Name</td><td colspan="4">Project Funding</td></tr>
<tr><td>Project Manager</td><td colspan="4">Watershed Management</td></tr>
<tr><td>Primary Goal</td><td colspan="4">Program Implementation - Implement the SSP in an Efficient and Effective Manner</td></tr>
<tr><td>Primary Objective</td><td colspan="4">PI_E. Optimize use of public and private resources to accomplish SSP goals.</td></tr>
<tr><td>Ends Policies</td><td colspan="4">2. There is an enhanced quality of life in Santa Clara County.
2.1 Watersheds, streams, and the natural resources therein are protected and, when appropriate, enhanced or restored.</td></tr>
<tr><td>District Role</td><td colspan="4">Leader</td></tr>
<tr><td>Potential Agency Participation</td><td colspan="4">TBD</td></tr>
<tr><td>Location</td><td colspan="4">Coyote Watershed</td></tr>
<tr><td>Description</td><td colspan="4">Identify potential fees, incentives, and/or cost sharing that could be utilized to fund projects.</td></tr>
<tr><td>Project Components</td><td colspan="4">a. Research and identify possible federal, state, and local funding sources.
b. Determine if any of these funding opportunities would be increased or more readily available if funding partnerships were formed for prioritized projects.
c. Develop appropriate partnerships, based on the project.
d. Obtain funding.</td></tr>
<tr><td rowspan="2">Budget/Schedule</td><td></td><td>Schedule</td><td>Duration</td><td>Budget</td></tr>
<tr><td>To be determined</td><td></td><td></td><td></td></tr>
<tr><td>Linkages</td><td colspan="4">All projects and programs</td></tr>
<tr><td>Implementation Issues</td><td colspan="4"></td></tr>
<tr><td>Notes</td><td colspan="4">To be updated with distribution of Chapter 13</td></tr>
</table>

Restoration Funding

Project Number	PI-E-03			
Project Name	Restoration Funding			
Project Manager	Watershed Management			
Primary Goal	Program Implementation - Implement the SSP in an Efficient and Effective Manner			
Primary Objective	PI_E. Optimize use of public and private resources to accomplish SSP goals.			
Ends Policies	2. There is an enhanced quality of life in Santa Clara County. 2.1 Watersheds, streams, and the natural resources therein are protected and, when appropriate, enhanced or restored.			
District Role	Leader			
Potential Agency Participation	TBD			
Location	Coyote Watershed			
Description	Analyze funding options to finance restoration activities.			
Project Components	a. Research and identify possible federal, state, and local funding sources. b. Determine if any of these funding opportunities would be increased or more readily available if funding partnerships were formed for prioritized projects. c. Develop appropriate partnerships, based on the project. d. Obtain funding			
Budget / Schedule		Schedule	Duration	Budget
	To be determined			
Linkages	All restoration projects and programs			
Implementation Issues				
Notes	To be updated with distribution of Chapter 13			

Grant Funding

Project Number	PI-E-04			
Project Name	Grant Funding			
Project Manager	Watershed Management			
Primary Goal	Program Implementation - Implement the SSP in an Efficient and Effective Manner			
Primary Objective	PI_E. Optimize use of public and private resources to accomplish SSP goals			
Ends Policies	2. There is an enhanced quality of life in Santa Clara County. 2.1 Watersheds, streams, and the natural resources therein are protected and, when appropriate, enhanced or restored.			
District Role	Leader			
Potential Agency Participation	TBD			
Location	Coyote Watershed			
Description	Create funding partnerships with agencies and community organizations to obtain available grant funding			
Project Components	a. Research and identify possible federal, state, and local funding sources. b. Determine if any of these funding opportunities would be increased or more readily available if funding partnerships were formed for prioritized projects. c. Develop appropriate partnerships, based on the project. d. Obtain funding.			
Budget / Schedule		Schedule	Duration	Budget
	To be determined			
Linkages	All projects and programs			
Implementation Issues				
Notes	To be updated with distribution of Chapter 13			

Permitting Process Improvement

<table>
<tr><td>Project Number</td><td colspan="4">PI-F-01</td></tr>
<tr><td>Project Name</td><td colspan="4">Permitting Process Improvement</td></tr>
<tr><td>Project Manager</td><td colspan="4">Regulatory Compliance Unit</td></tr>
<tr><td>Primary Goal</td><td colspan="4">Program Implementation - Implement the SSP in an Efficient and Effective Manner</td></tr>
<tr><td>Primary Objective</td><td colspan="4">PI_F. Simplify compliance with regulatory requirements without compromising environmental protection</td></tr>
<tr><td>Ends Policies</td><td colspan="4">2. There is an enhanced quality of life in Santa Clara County.
2.1 Watersheds, streams, and the natural resources therein are protected and, when appropriate, enhanced or restored.</td></tr>
<tr><td>District Role</td><td colspan="4">Partner or Supporter</td></tr>
<tr><td>Potential Agency Participation</td><td colspan="4"></td></tr>
<tr><td>Location</td><td colspan="4">Coyote Watershed</td></tr>
<tr><td>Description</td><td colspan="4">Identify opportunities for the District to expedite the permitting process, including funding the staffing of positions at permitting agencies.</td></tr>
<tr><td>Project Components</td><td colspan="4">a. Identify which permits are routinely required by the District
b. Identify and evaluate which permits are troublesome or require the most time to obtain.
c. Survey staff to determine any other permitting issues and to identify possible solutions to permitting challenges. This could range from informal, such as “brown bag” meetings, to formal surveys.
d. Evaluate possible permitting solutions
e. Implement permitting solutions.</td></tr>
<tr><td rowspan="2">Budget/Schedule</td><td></td><td>Schedule</td><td>Duration</td><td>Budget</td></tr>
<tr><td>Study</td><td>2002</td><td>1 year</td><td>$40,000</td></tr>
<tr><td>Linkages</td><td colspan="4">All projects and programs</td></tr>
<tr><td>Implementation Issues</td><td colspan="4"></td></tr>
<tr><td>Notes</td><td colspan="4"></td></tr>
</table>

Watershed Data and Information Management

<table>
<tr><td>Project Number</td><td colspan="4">PI-G-01</td></tr>
<tr><td>Project Name</td><td colspan="4">Watershed Data and Information Management</td></tr>
<tr><td>Project Manager</td><td colspan="4">Watershed Manager(s)</td></tr>
<tr><td>Primary Goal</td><td colspan="4">Program Implementation - Implement the SSP in an Efficient and Effective Manner</td></tr>
<tr><td>Primary Objective</td><td colspan="4">PI_G: Use existing institutional capacity to improve planning, regulatory, and development programs.</td></tr>
<tr><td>Ends Policies</td><td colspan="4">1.2.2 There is a balance between the contributions of watersheds and streams in providing for public health and safety and in providing protection of natural resource benefits.
2.1 Watersheds, streams, and the natural resources therein are protected and, when appropriate, enhanced or restored.</td></tr>
<tr><td>District Role</td><td colspan="4">Leader or Partner</td></tr>
<tr><td>Potential Agency Participation</td><td colspan="4">City of San Jose
City of Milpitas
Local Universities (San Jose State, Stanford, etc)
Local non-governmental environmental organizations (Marine Science Institute, California Trout, Santa Clara County Biodiversity Group, etc)
US Environmental Protection Agency
Regional Water Quality Control Board
US Geological Survey
California Department of Fish and Game
US Fish and Wildlife Service
National Marine Fisheries Service
National Resource Conservation Service
Santa Clara County</td></tr>
<tr><td>Location</td><td colspan="4">Coyote Watershed</td></tr>
<tr><td>Description</td><td colspan="4">This project provides for the management of data and information necessary to provide effective and timely preparation and monitoring of District watershed planning and coordination activities. The project will identify existing data and information.</td></tr>
<tr><td>Project Components</td><td colspan="4">a. Collect and share data between the various agencies and interested parties on the watershed, including:
● Watershed monitoring data, e.g. water quality, habitat quality, species populations,
● Watershed restoration projects schedules
● Information on regulatory compliance
● Information in GIS, such as habitat locations, endangered species locations, current project locations, etc.
b. Information would be made available to general public in standardized format, such as a webpage.</td></tr>
<tr><td rowspan="2">Budget/Schedule</td><td></td><td>Schedule</td><td>Duration</td><td>Budget</td></tr>
<tr><td>GIS/Data</td><td>Ongoing</td><td>Ongoing</td><td>$120,000/yr (01/02)</td></tr>
<tr><td>Linkages</td><td colspan="4">Watershed Assessment Monitoring Program
Stream Resources Inventory Management Program
All projects and programs.</td></tr>
<tr><td>Imp. Issues</td><td colspan="4">Sharing of currently restricted information (such as GIS layers)</td></tr>
<tr><td>Notes</td><td colspan="4">An example of this project is the Central Coast Joint Data Committee, which provides an</td></tr>
</table>

	information exchange of GIS and aerial photos to the general public.